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CITY OF MOUNTAIN VIEW

INITIAL STUDY
(ENVIRONMENTAL IMPACT ASSESSMENT)

City of Mountain View/Classic Communities Residential
185 Fairchild Avenue/180 Evandale Avenue

August 2005

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This statement is prepared in compliance with the California Environmental Quality Act

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APPNDICIES

I. INTRODUCTION

A. Project Title and Address:

Classic Communities Residential Project
185 Fairchild Avenue
Mountain View, California

B. Lead Agency Name and Address:

City of Mountain View
Community Development Department
500 Castro Street
Mountain View, California 94039

C. Contact Person and Phone Number:

Peter Gilli, AICP, Deputy Zoning Administrator
City of Mountain View
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D. Project Sponsor's Names and Addresses:

Classic Communities
1068 East Meadow Circle
Palo Alto, California 94303

City of Mountain View
500 Castro Street
Mountain View, California 94039

E. General Plan Designation and Zoning:

General Plan: Medium High Density Residential (26-35 du/acre)
Zoning: Evandale Area Precise Plan P(32)

F. Project Description:

The applicant, Classic Communities, proposes to demolish the vacated Lucky U Motel and construct 35 single-family attached and detached residential units at 185 Fairchild Avenue/180 Evandale Avenue (the site has dual frontage). The 2.25-acre site (BKF Engineers, Tentative Map dated 5-3-05), consisting of two parcels has a slope of less than two percent and has access off both Evandale and Fairchild Avenues. The General Plan designation for the site is *Medium-High Density Residential (26-35 dwelling units per acre (du/ac))* and the zoning is *Evandale Area Precise Plan-Area B,* which prescribes residential use of the land.

Eighteen paired units are proposed and 17 detached units are proposed. Both housing types, paired and detached, are proposed to be three-story. The housing would be constructed in four rows traversing east to west on the site. The paired units would be accessed off one 24 ft. wide curb cut along Fairchild Avenue and the single-family detached units would be accessed from Evandale Avenue via one 24 ft. wide curb cut.

Housing Product	Total Sq. Ft.	Living Area (sq. ft.)	Garage (sq. ft.)
Detached (17 du)	1,933	1,533	400
Paired Units (18 du)	1,925	1,525	400

For CEQA purposes, this environmental document will analyze the development potential of 40 units on the project site.

G. Location of Project:

The project site is located on the southern side of Fairchild Avenue mid-block between Tyrella Avenue and North Whisman Road. The 2.23-acre site is currently developed with the vacated Lucky U motel. The Lucky U derives its access off Fairchild Avenue. Approximately one third of the site is vacant and this portion of the site fronts Evandale Avenue. The motel is developed in a horseshoe shape with 21 single-story rooms, 10 garages and the managers unit in the center. The manager's unit is two-story. Grass, trees, minor landscaping and a filled in swimming pool is located within the horseshoe. The vacant land behind the motel predominately consists of weeds and some fruit trees. Historical data indicate that the site was developed in the late 1940's and at one time supported some agricultural use.

Adjacent and nearby land uses are a mix of multi- and single-family residential, office and Highway 101. Adjacent to the site on the east includes an apartment building and adjacent and west is single-family. Evandale Avenue is adjacent to and south of the site and across Evandale Avenue is a mix of single-and multi-family (apartments) residential. Directly north of the site is Fairchild Avenue and Highway 101. An office building is at the corner of Fairchild Avenue and North Whisman Road. A hotel is located approximately 300 feet east of the site and a mobile home park is approximately 400 feet west of the site. The figure on the next page provides the regional location of the project site.

H. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

None.

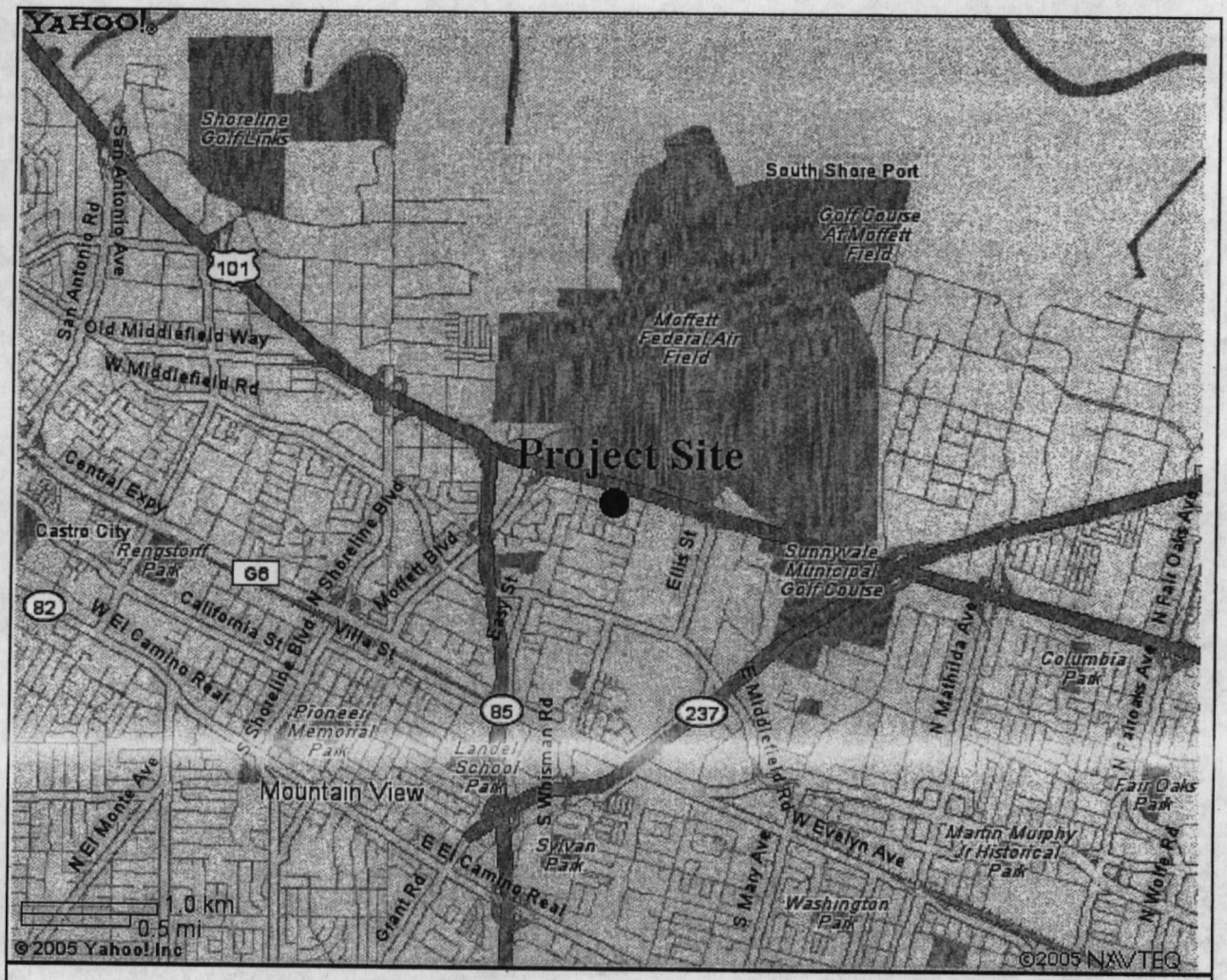
I. The following documents are herein incorporated by reference.

Geotechnical Investigation Classics and Evandale Avenue Mountain View, California, Report No. 899-60, January 21, 2005 by Lowney Associates (Mountain View Office).

Charles M. Salter, Associates-Acoustical Consultants, letter June 29, 2005.

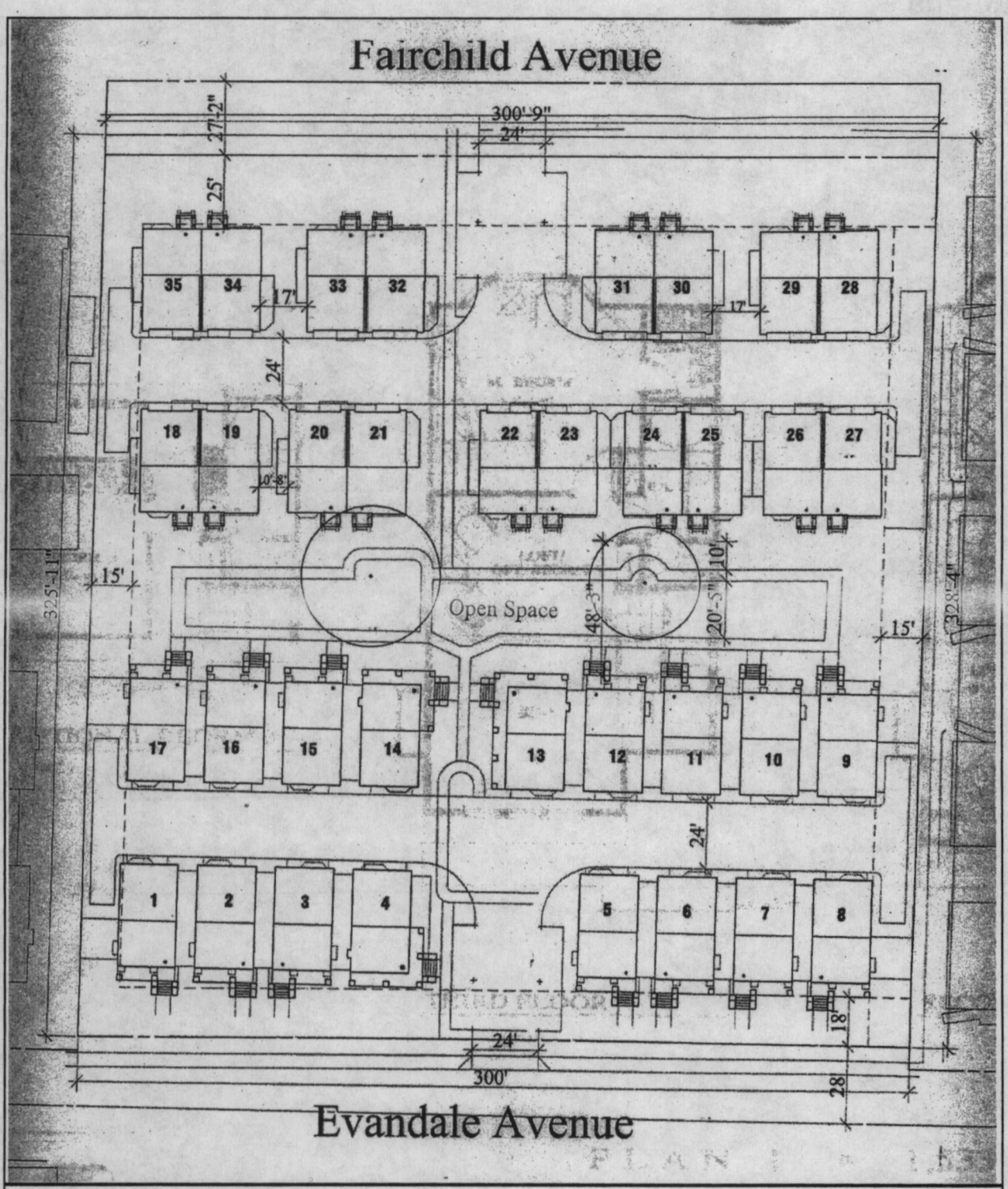
Barrie D. Coate, Associates Horticultural Consultants, Job #04-04-052, April 13 and May 6, 2004.

Phase I and Screening Level Phase II Environmental Site Assessment, 2.26-Acre Lucky U Motel Property 185 Fairchild Drive Mountain View, CA, Geotrans Project #: 4960.019.01, Geotrans, Inc., April 13, 2004.



LOCATION MAP

Figure 1



SITE MAP

Figure 2

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture Resources	X	Air Quality
X	Biological Resources	☐	Cultural Resources	X	Geology /Soils
X	Hazards & Hazardous Materials	☐	Hydrology / Water Quality	☐	Land Use / Planning
☐	Mineral Resources	X	Noise	☐	Population / Housing
☐	Public Services	☐	Recreation	☐	Transportation/Traffic
☐	Utilities / Service Systems	☐	Mandatory Findings of Significance		

II. ENVIRONMENTAL CHECKLIST AND EVALUATION OF ENVIRONMENTAL IMPACTS

This section includes the Environmental Checklist required by the California Environmental Quality Act (CEQA), an explanation of responses made to questions on the checklist, mitigation measures necessary to reduce impacts to less than significant levels, and a finding as to the significance of each potentially adverse impact after mitigation.

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section

15063(c)(3)(D). In this case, a brief discussion should identify the following:

a) Earlier Analysis Used. Identify and state where they are available for review.

b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

a) the significance criteria or threshold, if any, used to evaluate each question; and,

b) the mitigation measure identified, if any, to reduce the impact to less than significance.

A. LAND USE AND PLANNING

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐	1,2
2. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☒	☐	☐	☐	1,2,3
3. Physically divide an established community?	☒	☐	☐	☐	1,2,3

A.1: *The General Plan* land use designation for the site is medium-high density residential (26-35 du/ac). The project site is also located within the Evandale Precise Plan "Area B" which designates the site as residential. The Evandale Precise Plan further refines the density of Area B at a maximum of 20-25 du/ac for sites 2.5 acres or under. The subject site is 2.25 acres in size. The project proposes 15.5 du/ac, which conforms with the land use designation and density designation of the site.

Development of the project would attain several of the goals expressed in the City's General Plan including: Community Development (CD) Goal P, "to promote the opportunity to both live and work in Mountain View;" Policy 42, "striving for a better balance of jobs and housing units;" and Residential Neighborhoods Goal B Policy 2, " to encourage housing on vacant in-fill land. The City of Mountain View has more jobs than housing. CD Goal P acknowledges that to bring the jobs/housing into balance more housing needs to be built or the job growth must be reduced or both. Development of the site with up to 40 residential units would provide additional housing in Mountain View. The attached housing product could be revised to attach more than two units in sequence in order to accommodate 40 units on the site.

Approximately 2/3rds of the site is developed with a motel that is not in use. The remaining 1/3 includes open area and some fruit trees. Although the site is not vacant, per se, it is not being used and construction of up to 40 units on the site would implement Goal B Policy 2.

The Evandale Precise Plan (EPP) identifies the development standards applicable to the site. The EPP development standards build upon the City's R3 Zoning District regulations. The R3 district allows for rowhouses that conform to the City's Rowhouse Design Guidelines, adopted in April of 2005. EPP specific standards focus on the provision of open space and mitigation of freeway noise for public open spaces through careful site planning.

The proposed plan by Classic Communities conforms to the densities, setbacks, heights and open space requirements of the City's guidelines. The proposed density is 15.5 du/ac (16 du/ac at a 40 unit project) and the maximum permitted density is 25 du/ac. The proposed maximum height is 35 ft. and

45 ft. is permitted. The proposed setbacks are 15 ft. (front/side/rear) and the required setback is 15 ft. (f/s/r). The proposed common open space is approximately 34,000 sq. ft. in the center of the site which provides an area for play and recreation. Private open space is provided in front and side setback areas (as appropriate to the unit type) and on balconies. The parking requirement for this type of residential unit is 2.3 spaces per unit, which the proposed plan shall meet or exceed.

The plan does not provide a through vehicular connection (or internal street) from Fairchild Drive to Evandale Avenue. This was considered acceptable since the provision of such a connection would have created a wider opening for freeway noise to enter the primary open space area in the middle of the site, violating the EPP standard to "maximize noise attenuation" to obtain "relatively quiet outdoor usable recreation areas."

A.2: The subject site is not within a Habitat Conservation Plan area, nor is it identified as a biologically sensitive site in the City's General Plan (page 124, *Mountain View General Plan*). Additionally the site has been developed with a motel since the 1940's.

The site was used for limited agricultural purposes between the 1930's-40's (*Geotrans Phase I and Phase II Screening Level Environmental Assessment*, August 13, 2004) which appeared to be dry farmed grain. As noted above, approximately 1/3rd of the site is an open field covered with annual grasses and a few fruit trees planted by the current owner. In conclusion the site is not actively used for farming and redevelopment of the site would not result in a loss of farmland.

A.3: Land uses in the vicinity of the site are primarily single- and multiple-unit medium- to high-density residential dwelling units. The addition of up to 40 residential units would contribute to the residential use and function of the neighborhood.

Finding. No significant negative impacts to land use and planning would be associated with the project, and no mitigation is required.

B. POPULATION AND HOUSING

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐	1,2,3,4
2. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☒	☐	☐	☐	1,2,3,4
3. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☒	☐	☐	☐	1,2,3,4

B.1: In Mountain View, the balance of jobs to employed residents is monitored by the City and the Association of Bay Area Governments (ABAG) for purposes of regional planning. For the period of 1999 to 2006, the Association of Bay Area Governments (ABAG) has "allocated" 3,423 additional residential units to the City of Mountain View as its "fair share" of the region. This means that Mountain View should strive to provide at least 3,423 new residential units within this time frame. Other cities have different allocations.

Between January 1, 1999 and December 2004, 1,230 units had been built in the City. Another 256 have recently been approved or are under construction. Another 1,450 units are in the Planning Division application process (including the proposed project). If all 1,450 units are approved and constructed, the City will have provided a total of 2,936 new residential units (85.8%) of the 3,423 allocated by ABAG. Therefore, the proposed project would not exceed regional or local housing projections, but the proposed project would rather help the City attain its fair share of housing for the region. Therefore, no further review is required and no mitigation is required.

The project site is within a developed area. Infrastructure currently serves the project area. Infill development of the site conforms to the lower end of the density designation prescribed in the General Plan and the Evandale Precise Plan.

B.2: The motel did not provide permanent housing when it was in use. The motel is now unused and vacant. Therefore, the proposed project would not displace residents. The proposed project would add to the City's housing stock and assist in meeting the City's housing production allocation and would provide housing opportunities.

B.3: The site of the proposed project is currently vacant. Therefore, development of up to 40 residential units would not displace any existing housing or require any replacement housing.

Finding. No significant negative impacts to population and housing would be associated with the project, and no mitigation is required.

C. TRANSPORTATION / TRAFFIC

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e. result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☒	☐	☐	☐	5,6
2. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐	6

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☒	☐	☐	☐	7
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐	7
5. Result in inadequate emergency access?	☒	☐	☐	☐	8
6. Result in inadequate parking capacity?	☒	☐	☐	☐	9
7. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☒	☐	☐	☐	1

C.1: Application of trip generation rates published by the Institute of Transportation Engineers , 6th Edition (ITE), indicates that the proposed project would generate approximately 314 daily trips, 30 a.m. peak hour trips, and 31 p.m. peak hour trips.[1] (Forty units would generate approximately 382 daily trips). Since the proposed project itself, in absence of considering the existing use on the site, would generate less than 100 peak hour trips, a regional traffic analysis consistent with the Santa Clara Valley Transportation Authority's (VTA) Congestion Management Program (CMP) is not required.

The existing traffic trips attributed to the motel use, which includes 20 rooms, and a managers unit (when it was occupied and in use) is credited as generating 191 traffic trips (ITE). Therefore the net new trips that can be attributed to the proposed project is 123 total trips, 11 trips during the a.m. peak hour and 12 trips during the p.m. peak hour. The addition of projected project trips (including the 40 unit scenario) would not result in impacts to the roadways, stop sign controlled or signalized intersections in the project area (D. Belluomni, Traffic Engineer City of Mountain View, August 3, 2005).

C.2: As discussed in item C.1, the addition of traffic from the proposed project would not exceed the level of service standards at the study area intersections. The project would contribute less than one percent of the total traffic volumes at the study area intersections for both a.m. and p.m. peak hours. This addition of project traffic to the study area would be considered nominal when compared to the background traffic volumes. As indicated in the Santa Clara Valley Transportation Authority's (VTA) Technical Standards and Procedures, a traffic volume increase of one percent or less would not create a significant impact at a Congestion Management Program (CMP) intersection. The City's traffic engineer has reviewed the plans and indicated that project traffic would not impact the local roadways in the project area. Intersections and roadways are operating at free flow conditions and would not be impacted by the addition of project traffic (D. Belluomni, Traffic Engineer City of Mountain View, August 3, 2005).

[1] Trip Generation, 6th Edition, Apartment Land Use (ITE Code 220) Institute of Transportation Engineers (ITE), 1997.

C.3: The nearest air field is Moffett Air Field across the U.S. Highway 101 corridor, north of the project site. The project site does not share direct access to the east of 101 area. The proposed height of the buildings, less than 35 feet, would not impact air travel to and from Moffett Air Field.

C.4: Access to the project site is derived from both Evandale Avenue and Fairchild Drive. Project driveways are located in the center of the site thus providing more than 120 feet of sight distance along the project frontage. Vehicular sight distances would be sufficient to meet safety requirements; on-site drive aisles have been designed to the City's Zoning Code standards; and turn radii at the on-site driveways would be sufficient for passenger cars, service vehicles (i.e., delivery and garbage trucks), and emergency vehicles (Peter Gilli, Deputy Zoning Administrator, August 10, 2005). No safety hazards from improper design or unsafe materials are expected.

C.5: As noted in C.4 above, the City's police and Fire Departments have reviewed the project plans and have found them adequate for emergency ingress and egress.

C.6: The parking requirement for this type of residential unit is 2.3 spaces per unit. The proposed plan exceeds the minimum parking requirement by providing 2.46 spaces per unit.

C.7: The proposed residential project would not conflict with programs supporting alternative transportation. There are sidewalks located along both project frontages, Evandale Avenue and Fairchild Drive. There is adequate area along the street frontages for bicycles and pedestrians.

Finding. No impacts to transportation, traffic and parking are expected and no mitigation is required.

D. NOISE

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	10,11,12
2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐	12
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐	10,12
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	1,10

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☒	☐	☐	☐	1,10
6 For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☒	☐	☐	1,10

Background

Noise Descriptors: Noise intensity is customarily measured on a 'decibel' scale that serves as an index of loudness. On this scale, sounds as faint as 0 decibels are just barely audible, and only then in the absence of other louder sounds; intense sounds of 120-140 decibels are painful or can cause damage to hearing with but a brief exposure.

Such extremes are not often encountered in commonplace environments. Residents of Mountain View are most frequently exposed to noise that ranges between 35 decibels and 80 decibels in intensity. The environmental noise level measurements made at the project site are based on the "L_{eq}," which is a time average of the energy content of sound. In general, traffic noise levels fluctuate as trucks, buses, and platoons of automobiles pass by—sometimes by more than 20 decibels over intervals as brief as a few seconds. The maximum and minimum noise levels within any interval of time are therefore significantly higher and lower, respectively, than the L_{eq} over the same interval. The decibel scale may be further understood by considering the fact that if a sound is perceived to be twice as loud as another otherwise similar sound, then the louder sound is approximately 10 decibels higher. Traffic noise fluctuates substantially in intensity from minute to minute and varies greatly in intensity from day to night. A 5-decibel change is readily perceptible, a 3-decibel change is barely perceptible, and a 1-decibel change is generally unnoticeable.

Noise that occurs at night is thought to be more significant in environmental effect than daytime noise. The "DNL" is a 24-hour average of the hourly L_{eq}s that incorporates a 10-decibel penalty for noise that is emitted between 10 PM and 7 AM. The DNL is commonly used to characterize community noise exposures.

Regulatory Framework: Noise standards are addressed in the City of Mountain View General Plan, Title 24 of the *California Code of Regulations* (for new multifamily residential developments) and the Uniform Building Code. Noise guidelines and objectives are addressed in the Evandale precise Plan.

The 1992 City of Mountain View General Plan contains noise standards for various land uses. For residential uses, the exterior and interior noise standards are shown below.

TABLE 1
GENERAL PLAN NOISE STANDARDS FOR RESIDENTIAL/OPEN SPACE USES DNL

	Residential			
Standard	**Normally Acceptable**	**Conditionally Acceptable**	**Potentially Unacceptable**	**Normally Unacceptable**
Exterior Standards	< 55	55 to 65	65 to 75	+ 75
Interior Standards	< 45	45 to 50	50 to 75	+ 75
		Open Space		
Exterior	<55	55 to 65	65 to 75	+ 75

SOURCE: City of Mountain View General Plan, 1992.

Title 24, implemented through the building permit process includes requirements for the construction of new dwellings other than detached single-family dwellings, hotels, motels and apartment houses that are intended to limit the extent of noise transmitted into habitable spaces.[2] For limiting noise from exterior sources, the noise insulation standards set forth an interior standard of DNL 45 dBA in any habitable room and, where such units are proposed in areas subject to noise levels greater than DNL 60 dBA, an acoustical analysis is required demonstrating how dwelling units have been designed to meet this interior standard. If the interior noise level depends upon windows being closed, the design for the structure must also specify ventilation or air-conditioning system to provide a habitable interior environment. The Uniform Building Code is enforced by the Building Inspection Division of the City's Community Development Department. The Building Department ensures that any measures that are specified in the Code-required acoustical study are implemented prior to issuance of a building permit. Title 24 would be applicable to the two rows of the attached housing product fronting Fairchild Avenue.

The City's construction noise ordinance would be applicable to future construction at the project site. Basically, it specifies that construction activities should not normally occur after 6 PM or before 7 AM, or on weekends. The City's stationary equipment noise ordinance states that any equipment noise received at any location on an adjacent residential property shall not exceed 55 decibels during the day or 50 decibels at night.

The Evandale Precise Plan (EPP) addresses noise in the project area. Specifically the EPP states that noise attenuation ***shall*** be an important consideration in the site and architectural design of all projects. Noise levels no greater than 45 dBA interior and 55 dBA exterior are encouraged to the maximum extent feasible. Buildings, open space, parking, and landscaping shall be arranged in such a way as to maximize noise attenuation and to obtain a relatively quiet outdoor usable recreation areas associated with as many units as possible.

Noise Sensitive Land Uses: Residential land uses, schools and convalescent hospitals are typically considered noise sensitive land uses.

Recent Noise Measurements on the Project Site: The primary source of noise that influences the ambient noise environment at the project site is traffic traveling on U.S. Highway 101 and to a lesser extent intermittent aircraft flyovers associated with Moffett Field. Two 24-hour and three short-term (15 minute) noise measurements were taken at the site on April 22, 2004 (Charles M. Salter, Associates letter June 29, 2005). One 24-hour measurement was taken 55 ft. south of the centerline of Fairchild Avenue and the second was taken 35 ft. north of the Evandale Avenue centerline. (See Appendix A for the Noise Report).

[2] *California Code of Regulations*, Title 24, Part 2, Appendix Chapters 12 and 12A.

TABLE 2
EXISTING AND ESTIMATED FUTURE NOISE AT PROJECT SITE

Location	Existing DNL	Future Projected DNL
Fairchild Avenue	69 dBA	70 dBA
Evandale Avenue	64 dBA	65 dBA

Noise varies approximately five decibels across (north to south) the site. The Fairchild frontage, 69 dBA, experiences the most noise impacts due to its proximity to U.S. Highway 101. Noise attenuates to 64 dBA at the Evandale frontage largely due to its increased distance (320 feet) from the Fairchild Avenue frontage, which is closest to the noise source. Buildings 28-35 would experience the most severe noise impacts due to their proximity to U.S. 101. Noise levels at buildings 28-35 would increase approximately 2 dB at the second story and 5 db at the third story (i.e., 71 and 74 dB). The U.S. 101 soundwall becomes less effective as a noise barrier on the second and third stories of the buildings. Buildings 18-27 would experience similar noise impacts but to a lesser extent due to the shielding that buildings 28-35 would provide. The proposed open space area would experience 62-64 dB if the project were built as shown on the site plan. Noise would be attenuated in the center of the site largely due to the noise shielding that would be provided by proposed buildings 27-35 (the two rows of attached units). Passive outdoor open space would be 62-62 dBA. Future noise levels are projected to increase 1 dB and are based upon Caltrans data that indicate U.S. 101 traffic is anticipated to increase three percent per year over the next 10 years.

The building envelope, assuming closed doors and windows, would be expected to attenuate interior noise levels 15-20 dB. This attenuation, although beneficial, would still result in an interior noise environment above the 45 dB standard for buildings 28-35. Building envelope noise attenuation is also predicated upon closed doors and windows, therefore, introducing the need for alternative ventilation and cooling (HVAC) of the buildings. HVAC units would introduce an additional source of noise on the project site.

Analysis

Compatibility of Site for Proposed Uses

Impact D.1: The project would introduce sensitive receptors into an existing noise environment that exceeds the exterior standards contained in the General Plan. Absent noise insulating features, Title 24 interior standards would also not be achieved. Without mitigation, this would be a significant impact. The proposed project would expose project occupants in buildings 28-35 to noise that is identified as "Potentially Unacceptable" (existing conditions) and "Normally Unacceptable" (future conditions) as identified in the City's General Plan. Occupants in Buildings 1-17 would be exposed to a "Conditionally Acceptable" noise environment. Open space uses would be exposed to a "Conditionally Acceptable" noise environment.

Mitigation Measure D-1:.The following measure would reduce Impact D-1 to a level of insignificance.

D-1 (a): A detailed site specific acoustical analysis shall be prepared and submitted as a part of the construction documents and shall confirm that measures have been taken to achieve an interior ambient noise level of 45 dB in all habitable rooms of buildings 1-35, (or buildings 1-40) which includes the single-family detached product. Exterior facades of buildings 18-35 will require sound rating based upon the Charles Salter Noise report (June 29, 2005).

D-1 (b): HVAC equipment shall be placed and include noise shielding so as not to increase the noise environment in the open space area in the center of the site. The open space area shall continue to be at 64 dB or less. HVAC equipment shall also be placed and include noise shielding, as identified by the

City's Municipal Code, so as not to impact adjacent land uses at the property lines. The City's stationary equipment noise ordinance states that any equipment noise received at any location on an adjacent residential property shall not exceed 55 decibels during the day or 50 decibels at night.

Impact D-1.A: The Evandale Precise Plan calls for buildings, open space, parking, and landscaping to be "arranged in such a way as to maximize noise attenuation and to obtain a relatively quiet outdoor usable recreation areas associated with as many units as possible." The Plan also states that noise attenuation *shall* be an important consideration in the site and architectural design of all projects.

Mitigation Measure D-1.A: The proposed project shall provide a 'noise masking' features, such as water features in the common open space area to provide psychological softening of the freeway noise in addition to one of the following:

- The proposed project could be redesigned to attach more units of the first two rows of housing. Attaching more of the units (such as, triplex, fourplex, fiveplex, or a complete row of attached housing configurations) would attenuate noise to the open space by completely blocking line of sight of the soundwall to the open space area, and would achieve additional density as identified in the Evandale Precise Plan, OR

- The applicant shall study the benefit of solid sound walls located in between paired unit buildings to provide better noise attenuation for the common open space area. If walls of reasonable height and cost are found to provide reduced noise levels in the common open space area, then such walls will be required as a mitigation measure.

Impact D-2. Although construction activities would occur only during daytime hours, construction noise would still be disruptive to residents and local businesses.

The proposed use would not significantly increase noise levels on a permanent basis; however, construction activities may temporarily affect neighboring properties. For non-impact construction equipment, noise levels generally range from between 85 and 89 dBA at a distance of 50 feet from the equipment (EPA, 1971). Assuming an attenuation rate of 6 dBA per doubling of distance, construction noise of 89 dBA at a distance of 50 feet could result in noise levels of 83 dBA at a distance of 100 feet, the approximate distance to the nearest sensitive receptor.

Mitigation Measure D-2. To reduce this impact to less than significant levels, the following measures are required:

- Construction contractors shall comply with the construction hour restrictions of the City of Mountain View's Noise ordinance.

- Construction contractors shall utilize best management practices for noise reduction, including muffling and shielding intakes and exhausts, shrouding or shielding impact tools, and using electric powered rather than diesel powered construction equipment to the extent feasible.

- Stationary noise sources shall be located as far from sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, and shall incorporate insulation barriers, or other measures to the extent feasible.

- Prior to the start of construction the applicant shall provide written notification to all the residential and commercial neighbors within 500 feet of the property of the limitation of hours set by this mitigation, provide the name and telephone number of an individual who is empowered by the applicant to take corrective measures to reduce the noise complaints. The

name and phone number of this individual shall also be posted in on the property in a location where it is easily read by the public, indicating the individual's responsibility and availability. This individual will provide weekly reports to the City of Mountain View's Zoning Officer of all the noise complaints received and all actions taken to prevent any reoccurrences.

Given the temporary nature of construction noise, the above measures would mitigate this impact to a less than significant level.

D.3: The subject property is not located near a railway or industrial land use that would be expected to cause excessive noise and vibration. Big rig trucks may occasionally pass-by on U.S. 101 and may cause infrequent vibration. This impact is considered less than significant.

D.4: The proposed project would not increase noise levels in the project area or vicinity as a result of operational activities. Traffic volumes associated with the project would have to double in order to result in a barely perceptible (3 dB) increase in noise levels.

D.5: The project is not located within an airport land use plan or, where such a plan or within two miles of a public airport. No impact.

D.6: The project is located near the Moffett Airfield. Noise impacts from Moffett Airfield are secondary to the noise impacts from U.S. 101. The acoustical analysis required in D.1, above, would reduce this impact to a less than significant level.

Finding. Implementation of the mitigation measures listed above will reduce potential noise impacts to less than significant levels.

E. AIR QUALITY

Will the proposed project result in the following environmental effects?	**No Impact**	**Less Than Significant Impact**	**Less Than Significant With Mitigation**	**Potentially Significant Impact**	**Data Sources**
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.					
1. Conflict with or obstruct implement -ation of applicable air quality plan	☐	☐	☒	☐	13,14
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐	13,14

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐	13,14
4. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	13,14
5. Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐	13,14

Background

The proposed project is located within the San Francisco Air Basin. The San Francisco Bay Area Air Basin has a history of recorded violations of federal and State ambient air quality standards for ozone, CO, and particulate matter. Since the early 1970s, substantial progress has been made toward controlling these pollutants. Although the region has made considerable progress to meet the standards, violations of ambient air quality standards for particulate matter and ozone still occur. Reactive organic gases (ROG) and nitrogen oxides (NOx) are regulated pollutants, because they are precursors to ozone formation. A subset of particulate matter is regulated as inhalable particulate matter less than ten microns in diameter (PM_{10}).

The Bay Area Air Quality Management District (BAAQMD) generally does not recommend a detailed air quality analysis for projects generating less than 2,000 vehicle trips per day as projects of this size are not expected to generate criteria pollutant emissions more than the 80 pounds per day significance thresholds recommended by the district. The proposed development of 35 residential units would generate an average of 314 trips per day. (The 40-unit scenario would generate an average of 382 trips per day). This means that emissions caused by vehicle trips associated with the project would not create criteria pollutant emissions greater than the BAAQMD's thresholds of significance. Therefore project emissions would not lead to or contribute to an existing air quality violation.

Analysis

Comment to E.1, 2 & 3: Construction and operation at the project site could result in air quality impacts that would contribute to existing particulate matter and ozone violations in the region. During the construction period, activities such as excavation and grading operations, construction vehicle traffic on unpaved areas and wind blowing over exposed earth could generate fugitive dust emissions that may affect local air quality. For construction-phase impacts, the Bay Area Air Quality Management District (BAAQMD), the regulatory agency managing air quality in the San Francisco Bay Area Air Basin, recommends that impact significance be determined based on a consideration of the control measures to be implemented.

Construction activities would also result in the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity and construction worker automobile trips during the construction of future residential development. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the

number of construction workers. Operation of construction equipment and travel by construction employees would generate exhaust emissions. Solvents in products used in construction, such as adhesives, non-water based paints, thinners, some insulating materials and caulking materials, would evaporate into the atmosphere and would participate in the photochemical reaction that causes ozone. Asphalt paving is also a source of ROG emissions. Criteria pollutant emissions of ROG and nitrogen oxides (NO_x) from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during construction activities. However, emissions of CO and ozone precursors (ROG and NO_x) from exhaust and other construction activities are included by the BAAQMD in the emission inventory that is the basis for regional air quality planning, and the BAAQMD does not consider these emissions to impede attainment or maintenance of ambient air quality standards. Therefore, equipment emissions during construction of future residential development are not expected to impede attainment or maintenance of ozone standards in the Bay Area. This impact would therefore be less than significant.

Once the 35 (or 40) unit project is operational, air quality impacts from development of the project site would result primarily from increase in vehicular trips by future residents. The proposed 35 unit project would generate approximately 314 daily vehicle trips (or 382 daily vehicle trips for 40 units). According to the BAAQMD screening criteria, projects generating less than 2,000 vehicle trips per day would not be required to conduct a detailed air quality analysis as their associated emissions would be well below the BAAQMD significance thresholds of 80 pounds per day for ROG, NO_x and PM_{10}. Since the proposed residential development would generate trips well below the BAAQMD's screening threshold, impacts of the project to regional air quality would be less than significant.

Mitigation Measure E.1-1: Construction air quality impacts can be reduced to a less-than-significant level through application of the following mitigation measures.

- Water all active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible. Watering shall be conducted in consult with the geotechnical consultant for the project and in conformance with the Lowney Geotechnical Report discussed in the Geology and Soils Section of this document.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep streets (with water sweepers using reclaimed water if possible) at the end of each day if visible soil material is carried onto adjacent paved roads.
- Suspend dust-producing activities during periods of high winds (25 miles per hour) when dust control measures are unable to avoid visible dust plumes.
- During the dry season (May-October) provide equipment and staffing for watering of all exposed or disturbed soil surfaces at least twice daily, including weekends and holidays.
- Require daily clean-up of mud and dirt carried onto paved streets from the site.
- For any fine materials transported by truck and stockpiles of fine materials, cover or wet down to control dust.
- Limit unnecessary idling of construction equipment.
- Initiate landscaping and revegetation as soon as construction tasks allow, in order to limit wind erosion.

With implementation of Mitigation Measure E.1-1, construction of future residential development would not be expected to violate any air quality standard or contribute to an existing or projected air quality violation in the project vicinity.

E.4: Construction activities could expose sensitive receptors to substantial pollutant concentrations, principally PM-10, from fugitive dust sources. Sensitive receptors are located north, south and east of the project site. However, with the implementation of a dust abatement program (Mitigation Measure E-1), this impact would be reduced to a less than significant level. Operationally, motor vehicles would be the primary source of local pollutant emissions that could affect sensitive receptors. Carbon monoxide emissions from the project related traffic is expected to be well below the screening threshold of 550 pounds per day recommended by the air district. Therefore this would be a less than significant impact.

E.5: The proposed project would not have any potential to create objectionable odors.

Finding. Implementation of the mitigation measures listed above would reduce potential air quality impacts to less than significant levels.

F. HYDROLOGY AND WATER QUALITY

Will the proposed project result in the following environmental effects?	**No Impact**	**Less Than Significant Impact**	**Less Than Significant With Mitigation**	**Potentially Significant Impact**	**Data Sources**
1. Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐	1,15
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☒	☐	☐	☐	1,8,15
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	☒	☐	☐	☐	1,15
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site?	☒	☐	☐	☐	1,15

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐	1,15,18
6. Otherwise substantially degrade water quality?	☒	☐	☐	☐	1,15,18
7. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☒	☐	☐	☐	16
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☐	16
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☒	☐	☐	☐	8,15,16
10. Inundation by seiche, tsunami, or mudflow?	☒	☐	☐	☐	17

F.1: Existing groundwater in the project vicinity is contaminated with TCE and this is discussed in the Hazards Section of this report. The project would not exacerbate the existing conditions and the project as mitigated in the Hazards section would represent an improvement over existing conditions.

F.2: The proposed project does not have the potential to alter the amount of groundwater by direct additions or withdrawals. Contracts with the San Francisco Public Utilities Commission supply the City with approximately 90 percent of its water and the remaining water supply is from underground wells (Turner 2005). The proposed project would have a less than significant impact on groundwater.

F.3: Approximately 50% of the site is developed with structures and paving. Additional development would increase the amount of impervious surface (roofs, parking lots, walkways) in the area and the amount of surface runoff. Based on review of the site plan, the project would retain 35 percent of the site for landscaping/open space in conformance with the Row House Guidelines adopted by the City (April, 2005).

Grading activities associated with the construction of the building pads and foundations could alter existing surface and/or subsurface drainage patterns. To address potential drainage impacts, the construction contractor would be required to abide by standard City practices for grading. A grading plan is required as a component of the application process for building permits. City practices assure that final grading of the site achieves positive surface and subsurface drainage in the same direction as existing natural drainage. With the implementation of these standard practices, no drainage or surface water runoff impacts are expected. Additionally, the geotechnical report prepared for and

submitted with the project application contains specific measures for ground- and surface-water conveyance (See the Geology and Soils discussion in Section G, below).

F.4: The project site is served with existing curb, gutter, and storm drain lines along Evandale and Fairchild Avenues. Therefore, groundwater quality will not be affected by infiltration of storm water run off.

F.5: A major source of water quality deterioration is "non-point source" pollution, which results from urban runoff. Urban runoff is typically contaminated by oil and grease from parking areas and roads, sediments from construction related activities, pesticides and fertilizers from landscaping, and lead or other heavy metals from automobiles.

Construction activities may contribute to the contamination of surface runoff and groundwater. Contamination can be reduced to less than significant levels by following the City's Best Management Practices as required for grading impacts (see discussion under item G.4). The project would be required to adhere to the City's adopted Best Management Practices for construction sites as required by Mountain View Municipal Code Section 35.32.10 (T). Best management practices are cost-effective practices which comply with storm water discharge regulations and are accepted by the City of Mountain View and the Santa Clara Valley nonpoint source discharge program for minimizing discharges of polluted water or industrial waste to the storm or sanitary sewer system thereby protecting water quality in streams, the groundwater basin, and the bay. Adherence to existing regulations will result in no significant water quality impacts.

F.7 & 8: The Federal Emergency Management Agency's (FEMA) 1988 Flood Insurance Rate Map indicates that the project site is outside of the 100-year flood hazard zone (Flood Zone X panel # 060347-004E 6/19/97). Therefore, development of the project would not place its residents within a 100-year Flood Hazard Area.

F.9: There are no levees or dams within the vicinity of the project site. No impact.

F.10: Tsunami studies have been conducted for the coast of California from the south up to San Francisco. To date, there has been no published evacuation planning maps or inundation studies for inside the San Francisco Bay. The tsunami evacuation planning maps provided on the ABAG site are for the ocean side of San Francisco and San Mateo counties only (from Lincoln Park to San Gregorio) are based on modeling of potential earthquake sources and hypothetical extreme undersea, near-shore landslide sources. The maximum run-up to a specific contour was determined to be reasonable. This contour is 12.8 meters (42 feet) in these two counties. These maps were produced by the Office of Emergency Services (OES) and are intended for local jurisdictional, coastal evacuation planning uses only.

There are no modeling or published scientific studies with respect to the attenuation of such an event within the San Francisco Bay. Unpublished data provided at a seminar on Tsunami Planning given at California State Training Institute by OES in 2005 stated that initial tidal data from previous events with a Tsunami wave of 12.8 meters (42 feet) at the Golden Gate, attenuation of that wave inside the bay might be as high as .5 the wave height at Alameda and .1 at San Pablo Bay and Alviso the remote ends of the bay. If that were the case the expected raise in water level might be expected to be 4 to 6 feet in the southern part of the bay in the Mountain View area.

Finding. No significant hydrology impacts are expected and no mitigation is required.

G. GEOLOGY & SOILS

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☒	☐	☐	15
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐	15
ii) Strong seismic ground shaking?	☐	☐	☒	☐	15
ii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	15
iv) Landslides?	☐	☒	☐	☐	15
2. Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐	15,18,19
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐	15
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐	15
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☒	☐	☐	15

Background

A geotechnical investigation was prepared for the proposed project, *Geotechnical Investigation Classics and Evandale Avenue Mountain View, California, Report No. 899-60*, January 21, 2005 by Lowney Associates (Geotechnical Report). The Geotechnical Report is summarized in the following

text and incorporated herein by reference. All recommendations of The Geotechnical Report shall be incorporated into the project as mitigation measures.

Lowney Associates performed three subsurface drillings, two cone penetration tests and retrieval of soil for visual observation and laboratory testing. The site is relatively flat and does contain an approximate two foot high mound of undocumented fill along the Evandale (southern) frontage. The major findings of the Geotechnical Report are that the proposed development could be constructed as proposed provided that the recommendations contained in the Geotechnical Report are incorporated into the project design. The primary geotechnical concerns on the site are the presence of expansive soils, undocumented fill, potentially liquefiable sand and silt layers and a relatively shallow ground water table.

The undocumented fill consists of medium to stiff silt and below the fill stiff to very stiff clay is evident to approximately 45 feet below ground surface (bgs). Borings in the northern portion of the site found medium dense clay over dense sand to a depth of about 24 ft. bgs. Stiff silt was encountered at 46 ft. to the maximum exploration depth of 50 ft. bgs. Plasticity tests performed indicate that the soil exhibits moderate plasticity and expansion potential. Free groundwater was encountered 7.5 to 10 ft. bgs. The California Geological Survey mapping indicates that groundwater is typically found at 5 ft. bgs on the site. Fluctuations in groundwater are a result of variations in rainwater and perched water conditions. The Geotechnical Report used a design ground water of 5 ft. bgs for the liquefaction analysis.

Mitigation measures are identified in the Geologic Report that addresses all aspects of site preparation, grading, design, construction, construction observation and finishing work.

Analysis:

G.1.i: The project site is not located in an Alquist-Priolo Earthquake Fault Zone[3], as defined by the California State Department of Conservation, Division of Mines and Geology (CDMG). In addition, no active or potentially active faults exist on, or in the immediate vicinity of the site[4]. The City of Mountain View is situated about six miles east of the San Andreas Fault and ten miles west of the Hayward Fault. As the project site is not located on an active or potentially active fault, it is highly unlikely that the project would expose people to fault rupture and the impact is considered less than significant.

Impact G.1.ii: The proposed project is located in the San Francisco Bay Area, a region of intense seismic activity. Recent studies by the United States Geological Survey (USGS) indicate that there is a 62 percent likelihood of occurrence of a Richter magnitude 6.7 or greater earthquake in the Bay Area in the next 30 years. An earthquake occurring on either the San Andreas or Hayward faults could result in severe ground shaking and seismic settlement in Mountain View. To address potential impacts from seismic activity, the City requires soils reports for all new buildings to identify construction techniques necessary to comply with the earthquake protection standards in the Uniform Building Code.

Mitigation Measure G.1.ii: The Geotechnical Report (p 8) states that the site is underlain by alluvial soils extending to depths on the order of 500 ft. and corresponding to a 2001 California Building

3 Alquist-Priolo Zones designate areas most likely to experience fault rupture, although surface fault rupture is not necessarily restricted to those specifically zoned areas.

4 An active fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately within the last 10,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that faults lacking evidence of surface displacement are necessarily inactiove. Sufficiently active is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments. (Hart, 1997).

Code (CBC) stiff soil profile. The site work shall be designed to the specifications of Chapter 16 of the 2001 CBC using the Table 4 information. Implementation of this mitigation measure would reduce the potential impact to a less than significant level.

Impact G.1 iii: The Geotechnical Report states that some of the sand and silt layers could liquefy and cause differential settlement to the foundations. Differential settlement could range from 0.25 inches to 0.50 inches.

Mitigation Measure G.1.iii: Foundations shall be designed to accommodate additional movement. Pages 15-18 of the Geotechnical Report state that storm water management, surface drainage and landscaping. In particular, historic high water is recorded at 5 ft. bgs. The Regional Water Quality Control Board (RWQCB) requires a minimum of 10 ft. be maintained between seasonal high ground water and the bottom of any filtration facility. This requirement cannot be met, therefore infiltration facilities would require pre-treatment of pavement run-off water, and potentially roof run off water prior to entering any infiltration facilities. Due to the low infiltration rate and the regulatory restrictions, significant infiltration of storm water may not be feasible as a part of a storm water retention/detention program. Due to the moderate plasticity of the soils it is required that surface water infiltration adjacent to foundations and pavements (including sidewalks) are restricted. Bio-swales in conjunction with site storm drainage may be used adjacent to pavements provided that pavement cut-offs are incorporated in the civil plans.

The near-surface soils are moderately expansive. Therefore, landscaping shall be restricted within three feet of structures, slabs on grade and pavements (including sidewalks) shall not be permitted. Water shall not be permitted to pond near building foundations, slabs on grade, and pavements, including sidewalks.

Project plans shall include a landscape plan that incorporates the Geotechnical Report's recommendations prior to issuance of construction or building permits for the site. Lowney Associates shall prepare a letter to the City indicating the landscape plan reflects the recommendations of the Geotechnical Report prior to issuance of building permits. Additionally, Covenants, Conditions and Restrictions (CC&R's) for the project shall be prepared and shall include as an exhibit the approved landscape plan and the findings of the Geotechnical Report, including identification of the expansive soils and landscape restrictions near building foundations. The CC&R's shall be reviewed and approved by the City Planning Department, the City Attorney prior to issuance of any building or construction permits for the project. Lowney Associates shall review the any CC&R's that relate to landscaping and irrigation restrictions. A qualified geotechnical consultant shall be present on the site and monitor all grading and construction activities grading as identified in the Geotechnical Report. Implementation of this mitigation measure would reduce the potential impact to a less than significant level.

G.1. iv: The project site is on a relatively flat parcel and is not adjacent to any steep slopes. Based on the location of the site and its surrounding areas, there is no chance of exposing people and property to landslides or mudslides.

G.1.v: The findings of the Geologic Report indicate that the on site soils are corrosive to ductile/cast iron, steel and dielectic coated steel.

Mitigation Measure G.1.v: The measures identified in the Geologic Report address coating and cathodic protection. Underground pipelines shall be electrically isolated from above grade structures, reinforced concrete structures and copper lines in order to avoid galvanic corrosion problems.

G.2: Soil exposed by grading and construction activities could be subject to erosion by heavy winds or rain. During construction of new buildings there is a potential for wind erosion and introduction of particulate matter into the atmosphere, changes in topography, and unstable soil conditions. A City standard condition of approval of new development is compliance with the City's Best Management Practices for construction. These practices include watering during grading activities and cleaning dust and debris associated with the project from adjacent streets as noted in the Santa Clara Valley Nonpoint Source Pollution Control Program's document entitled "Blueprint for a Clean Bay".

Impact G.3 & 4: The Geologic Report states that the site has a potential for liquefaction and that soils have a moderate plasticity and expansion potential.

Mitigation Measure G.3 & 4: All the recommendations and suggestions of the Geotechnical Report shall be incorporated into project design, including landscaping, site preparation and construction.

G.5: Infrastructure is in place to remove wastewater from the site. There are no significant impacts anticipated with removal of wastewater from the site.

Finding. Implementation of the above identified mitigation measures would reduce geologic and soils impacts to a less than significant levels. Note: The City requires as a matter of building permit review and approval a project level soils report(s) and compliance with Best Management Practices. The above identified mitigation measures reinforce this requirement and add the requirement for a compliant landscape plan, CC&R's and disclosures that address and regulate the unique site conditions.

H. BIOLOGY

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐	1,7
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☒	☐	☐	☐	1,7

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Significant With Mitigation	Less Than Potentially Significant Impact	Data Sources
3. Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐	1,7
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐	1,7
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	20
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐	1,7

H.1: The proposed project site is currently developed and located in an urbanized area and is surrounded by existing retail/commercial and high-density residential development. The project site is located in an "Urban Developed" habitat[5] with no endangered, threatened or rare species present. No impact.

H.2: There is no riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service on the site. No impact.

H.3: There are no wetlands on the project site. No impact.

H.4: There are no migratory fish or wildlife on the site. The site is developed and it is within a highly developed urban setting adjacent to U.S. Highway 101. The project site does not contain any biological resources and is not near any streams, creeks or other riparian resources or wildlife corridors. No impact.

H.5: The City of Mountain View gives special protection to trees classified as Heritage Trees. Heritage Trees are characterized as trees that meet the following criteria (Mountain View City Code, Chapter 32 Trees, Shrubs and Plants, Article II Protection of the Urban Forest, Section 23):

- A tree which has a trunk with a circumference of forty-eight (48) inches or more measured at fifty-four (54) inches above natural grade;

[5] City of Mountain View; General Plan; October 1992.

- Any quercus (oak), sequoia (redwood), or cedrus (cedar) tree that is twelve (12) inches or more in circumference when measured at fifty-four (54) inches above natural grade;

- A tree or grove of trees designated by resolution of the City Council to be of special historical value or of significant community benefit.

An arborist's report has been prepared for the project (*Barrie D. Coate, Associates Horticultural Consultants, Job #04-04-052*, April 13 and May 6, 2004) (Arborist Report) which indicates that there are 48 trees on the subject property and 14 trees on adjacent properties that could be affected during project construction. Therefore, 58 trees could be damaged during project construction. Twenty-six of the identified trees meet the definition of a heritage tree. Table 3 identifies the trees that are classified as heritage, their size and their condition. Condition is rated as: Exceptional, Fine, Fair, Marginal and Poor Specimens. The numbers correspond to the tree survey performed on the site and mapped in the arborist's report. The two largest trees, #18 and #19, are centrally located on the property and the site plan has been designed to retain those trees. As indicated in Table 3, 14 heritage trees (12 palms and 2 walnuts) are proposed for removal to accommodate the project.

TABLE 3
HERITAGE TREES ON THE PROJECT SITE

TREE #	COMMON NAME	DIAMETER (Inches)	CIRCUMFERENCE (Inches)	CONDITION
Heritage Trees to be Removed				
2	Mexican Fan Palm	18	57	Fine
3	California Fan Palm	33	104	Fine
4	Mexican Fan Palm	18	57	Fine
5	Mexican Fan Palm	18	57	Fine
6	Mexican Fan Palm	19	60	Fine
7	Mexican Fan Palm	17	53	Fine
8	Mexican Fan Palm	19	60	Fine
9	Mexican Fan Palm	18	57	Fine
10	Mexican Fan Palm	17	53	Fine
13	Mexican Fan Palm	19	60	Fine
14	Mexican Fan Palm	19	60	Fine
22	English Walnut	22	69	Fair
23	English Walnut	17	53	Poor
25	Mexican Fan Palm	18	57	Fine
Heritage Trees to Remain				
18	Canary Island Pine	41	129	Fine
19	Coast Redwood	66	207	Fine
26	Mexican Fan Palm	17	53	Fine
27	Mexican Fan Palm	18	57	Fine
28	Mexican Fan Palm	18	57	Fine
29	Mexican Fan Palm	18	57	Fine
30	Mexican Fan Palm	19	60	Fine
31	Mexican Fan Palm	18	57	Fine
32	Raywood Ash	16	50	Poor
35	Raywood Ash	15	48	Marginal
40	Raywood Ash	15	48	Marginal
44	Mexican Fan Palm	16	50	Fine

Impact H.5: Heritage trees to be retained as part of the project would be compromised during project construction.

Mitigation Measure H.5: The Arborist's Report identifies recommendations that shall be incorporated into the project plans prior to City issuance of a building permit. Specifically:

- Retained trees shall be protected from construction activities by emplacement of fencing. The fencing shall be a minimum of five feet tall and chain link. The fencing shall be mounted on steel posts driven into the ground a minimum of two feet. The fencing shall be placed prior to the arrival of any construction equipment, materials or contractors and shall remain the duration of all site construction activities. Fencing shall be emplaced a minimum of two feet from the drip line of the preserved palm trees. Fencing shall include signage every 50 feet identifying its purpose.

- The fencing shall be installed 10 feet from and parallel with the east side of the property for the full length of this property boundary.

- Irrigation shall be provided to the retained trees for the dry months (any month receiving less than one inch of rainfall). Each trunk shall be irrigated with 10 gallons of water of each inch of trunk diameter every two weeks throughout the construction period. A soaker hose may substitute which shall be placed along the drip line of the tree the entire canopy circumference.

- Any tree pruning shall be conducted by an International Society of Arboriculture (ISA) certified arborist and according to ISA, Western Chapter Standards, 1998.

- Construction period fencing shall be inspected by the Planning Department prior to construction activities commencing on the site.

Removal permits are required to facilitate new construction, development, renovation or redevelopment, including building permits, shall be filed with the Community Development Department. The application shall be filed and processed concurrent with any other application(s) for development entitlements. Approval of an application for a permit may include reasonable conditions to insure compliance with the content and purpose of Mountain View's Article II, *Protection of the Urban Forest,* such as, but not limited to:

1. Requiring the replacement or placement of an additional tree, minimum twenty-four (24) inch boxed size, at a minimum two-to-one ratio on the subject property to offset the loss of a tree, limbs, or encroachment into the drip line.

2. Construction fencing or barriers to protect adjacent heritage trees or other landscaping;

3. Protective grading requirements to avoid damaging the root structure of the tree or adjacent trees;

4. Posting of a security bond to ensure that replacement trees are planted and become established (one (1) year after planting) and to compensate for the lost trees due to illegal removal;

5. The relocating of a tree on-site or off-site, or the planting of a new tree on-site or off-site to offset the loss of a tree;

6. Payment of a fee or donation of a boxed tree(s) to the city or other public agency to be used elsewhere in the community should a suitable replacement location of the tree not be possible on-site or off-site. The fee for replacement of a tree or trees shall be, at a minimum, based on the cost of a twenty-four (24) inch boxed tree of same species, delivered and installed. (Ordinance No. 10.96, September 24, 1996)

Specific conditions required as part of the approval process will be determined by the Zoning Administrator. The project, while removing existing trees on the site, would include landscaping within and around the perimeter of the project site, including new plantings of trees, bushes and shrubs.

Modifications to the proposed site plan as a result of other impacts identified in this report would not alter the impact or mitigation required for Heritage Trees. Essentially, the tree protection measures identified herein, the tree removal permit and the conditions levied by the Zoning Administrator would remain in place and still be required.

H.6: The project site is not within a habitat conservation plan area. No impact.

Finding. Implementation of the above identified mitigation measure would reduce biological resources impacts to less than significant levels.

I. HAZARDS & HAZARDOUS MATERIALS

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐	21
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	21,22
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐	8,21
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐	21

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☒	☐	☐	☐	8
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐	7,8
7. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☒	☐	☐	☐	7

Background

A Phase I and Screening Level Phase II Environmental Site Assessment was provided by the applicant and is summarized in the following text. (*Phase I and Screening Level Phase II Environmental Site Assessment 2.26-Acre Lucky U Motel Property* 185 Fairchild Drive Mountain View, CA, Geotrans Project #: 4960.019.01, Geotrans, Inc., April 13, 2004). Additionally the Regional Water Quality Control Board (RWQCB) and Environmental Protection Agency (EPA) were contacted to discuss the conditions at the site. These discussions are also summarized in the following text.

Phase I and Screening Level Phase II Environmental Site Assessment (Geotrans Report)

The purpose of the Geotrans Report was to provide an evaluation of the current and historical use of the property to assess whether such use has, or is expected to, result in environmental degradation of the property, or Recognized Environmental Conditions as defined by the ASTM Standard (E1527-00) (Geotrans Report p 1). The ASTM Standard E1527-00 defines "Recognized Environmental Conditions" as the presence or likely presence of hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into the structures on the property or into the ground, groundwater, or surface water on the property. In addition to existing data base searches, interviews with EPA and site reconnaissance a Screening Level Phase II soil and groundwater sampling and analysis were conducted.

The MEW Superfund site is located east and southeast of the site and the Moffett Field Superfund site is located across U.S. Highway 101 (north) of the project site. The MEW site has documented releases of chlorinated solvents including TCE to groundwater. The Lucky U Motel was constructed on the site in the 1940's and prior to that the site supported limited agricultural uses. Approximately half of the site is developed with a 20-unit motel, 10 garages, minimal landscaping and asphalt. Two septic tanks and a well are abandoned on the site. One automotive battery was present on the site and did not appear to be leaking.

The project site is not listed on any agency databases. A total of five U.S. EPA Superfund sites are located within one mile of the property, three CERCLIS sites are within 0.5 mile of the property, five LUST sites are within a 0.5 mile of the property and five Cortese sites are located within one mile of the property. The five Superfund sites include Moffett Field, three sites associated with the MEW site, and the Telcom Semiconductors site.

A Phase II Screening Level Environmental Site Assessment was conducted by Geotrans on March 2, 2004. The upper 15 feet of soil was studied. Soils were found to be silty clay and silty sand. First encountered groundwater was found 10 and 15 feet in depth and rising to 2.5 and 10 feet in depth in the boreholes. The groundwater flows to the northeast. Several groundwater flow zones occur below the site. The A zone is 15 and 20 feet bgs. The underlying B1 and B2 zones are deeper. The B1 zone is approximately 35-40 feet bgs. The property is 40 feet above mean sea level, and gently slopes to the north-northeast. The project site is located at the western edge of the MEW impact area, and according to Alana Lee, the B1 aquifer maps show that the TCE plume from the MEW site extend beyond the project site to the west.

Four soil borings and one four-point soil sample were completed on the project site. The soil borings (SB-1 through SB-4) were located as follows: SB-1 northwest half of the property near the septic tank, SB-2 northeast half of the property near the second septic tank, SB-3 southwest corner of the property and SB-4 southeast corner of the property. The soil sample (GS-1) was collected from the open field area (southern portion of the site) where the two feet of undocumented fill is located. GS-1 was taken to a depth of 0.5 feet bgs. GS-1 was conducted to determine the presence, or lack thereof, of pesticides. Four grab-groundwater samples were taken five to 10 feet bgs. The soil samples in SB-1-4 were analyzed for VOC's including benzene, toluene, ethyl benzene and xylenes (BTEX) and MTBE using EPA Method 8260, TPH-g using GC/FID, and TPH d/o using EPA Method 8015M. The four-point composite soil sample was analyzed for organochlorine pesticides using EPA Method 8081A. The grab-groundwater samples from SB1-4 were analyzed for VOC's including BTEX and MTBE using EPA Method 8260 low level, and TPH using EPA Method 8015M.

There were no detects for any of the contaminants studied in the soil samples. There were no detects for any of the contaminants studied in two of the four water samples (SB-1 and SB-2). TCE was detected in two of the four grab-groundwater samples. SB-3 (southwestern) corner contained 7.8 parts per billion (ppb) and SB-4 in the (southeastern) corner contained 13 ppb. The TCE thresholds are below the 530 ppb identified in the RWQCB's Interim Final Environmental Screening Level (ESL) for non-potable shallow ground water in high permeability soils. The standard for potable water is 5 ppb. There were no signs of contamination for the septic tanks as shown with the results of SB-1 and SB-2. There were no signs of pesticides.

Regulatory Agency Input

The City (Knapp, August 2005) consulted with representatives from the RWQCB and EPA with respect to regulations and oversight on the project site. The EPA is the Lead Agency with respect to the project site since the project site is affected by the MEW Superfund site. Ms. Alana Lee is the EPA Project Manager for the MEW site. Ms. Lee reviewed the Phase I and Limited Phase II Environmental Site Assessment and made the following comments (Lee, August 2005):

- Installation of vapor barrier and a passive ventilation system would provide reasonable comfort that future occupants of the homes would not be impacted by TCE.

- EPA does believe even based upon the low levels of TCE measured at the project site that in absence of a passive ventilation system and a vapor barrier, there exists a potential long-term health risk at the site.

- EPA cannot require the developer to install a passive ventilation system at this time. The current approved Remedy for the MEW site (which is what appears to be affecting the project site) does not include vapor intrusion. EPA plans to amend the MEW Remedy to address vapor intrusion. The amendment process includes evaluating potential alternatives against nine criteria some of which include protection of human health and the environment, short- and long-term effectiveness, costs, implementability, and community and state acceptance. The process, which also includes presenting the proposed plan (Remedy) to the community, a public meeting and public comment, would likely take several years before a Remedy is finalized.

- A Human Health Risk Assessment (HHRA) performed for future residential occupants on the site would provide useful information and would require additional testing at the site. Soil vapor testing would have to be performed and samples would need to be taken at the locations of the proposed buildings. Based upon that information a passive ventilation system may not be required, in absence of a reliable HHRA a passive ventilation system would provide reasonable mitigation.

Analysis

I.1: The proposed project would not involve the use of hazardous materials, beyond those associated with residential land uses, and, therefore, would not create new hazards.

Impact I.2: TCE was detected in two of the four grab-groundwater samples. SB-3 (southwestern) corner contained 7.8 parts per billion (ppb) and SB-4 in the (southeastern) corner contained 13 ppb. EPA does believe even based upon the low levels of TCE measured at the project site that in absence of a passive ventilation system and a vapor barrier, there exists a potential long-term health risk at the site.

Mitigation 1.2: A passive ventilation system and a vapor barrier shall be designed and installed on the site. The ventilation system and a vapor barrier shall be designed to perform for the life of project and shall be designed with the parameters of the Geology Report in mind, as applicable. The passive ventilation system and the vapor barrier shall be either prepared by Lowney Associates under the direction of the City or peer reviewed by Lowney Associates, under the direction of the City. The CC&R's identified in the *Geology and Soils* Section, above, shall also include language with respect to the levels of TCE under the project site, the need for the passive ventilation system and vapor barrier and the maintenance requirements of the systems. Sales documents shall include a disclosure statement as to the presence of TCE under the project site.

I.3: The project site is not located within a 0.25 mile of an existing or proposed school. The proposed project would not involve the use of hazardous materials and, therefore, would not create new hazards. No impact.

1.4: As noted above, the project site is not listed on any agency databases. A total of five U.S. EPA Superfund sites are located within one mile of the property, three CERCLIS sites are within 0.5 mile of the property, five LUST sites are within a 0.5 mile of the property and five Cortese sites are located within one mile of the property. The five Superfund sites include Moffett Field, three sites associated with the MEW site, and the Telcom Semiconductors site.

I.5: As discussed in the Transportation and Circulation Section, the nearest air field is Moffett Air Field across the U.S. Highway 101 corridor, north of the project site. The project site does not share direct access to the east of 101 area. The proposed height of the buildings, less than 35 feet, would not impact air travel to and from Moffett Air Field. There is no public use airport within two miles of the project site. No impact.

I.6: The City's Fire Department and Traffic Division of the Public Works Department have evaluated the proposed residential project. They have determined that the proposed plan would not interfere with any emergency response or evacuation plan.

I.7: The proposed project is not adjacent to any wildlands or at a wildland/urban interface. There would be no risks associated with wildland fire.

Finding. Implementation of the above identified mitigation measure would reduce impacts associated with hazards and hazardous materials to less than significant levels.

J. PUBLIC SERVICES

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
a. Fire protection?	☐	☒	☐	☐	8
b. Police protection?	☐	☒	☐	☐	8
c. Schools?	☐	☒	☐	☐	8
d. Parks?	☐	☒	☐	☐	8
e. Other public facilities?	☐	☒	☐	☐	8

J.2: The Mountain View Fire Department's staff levels are sufficient to support the proposed development. The City's General Plan indicates that the Fire Protection Master Plan will continue to be evaluated and updated, a program of inspections and site plan review will continue to be maintained, and necessary personnel and equipment will continue to be provided. The proposed development is not likely to have a significant impact on the provision of fire prevention and fire suppression services. Implementation of Uniform Fire Code requirements for new construction will reduce potential impacts to less than significant levels.

J.3: Demand for police services would not be affected by the proposed project. The goal of the Mountain View Police Department is to maintain a force sufficiently staffed and deployed to sustain four-minute maximum emergency response 70 percent of the time.

J.4: The project site is in the Mountain View Elementary and Mountain View High School Districts. Developer fees for the construction of new housing are $1.49 per square foot. Student generation rates for new residential development are 0.232 students per single-family unit and 0.029 per multi-

family unit in grades K-8. High School student generation rates are 0.11 per single-family unit and 0.046 per multi-family unit

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), restricts the ability of local agencies, such as the City of Mountain View, to deny project approvals on the basis that public school facilities are inadequate. Payment of impact fees provides the legal CEQA mitigation measure for impacts to local school districts. SB 50 establishes the base amount of allowable developer fees for commercial construction and residential development. The project sponsor for any future residential Development Application would be required to pay the student impact fees pursuant to Leroy F. Greene Facilities Act. School impact fees would be collected when building permits are issued. These fees would be used to accommodate new students, reducing potential impacts on schools to a less-than-significant level.

J.6: The proposed project does not have the potential to affect maintenance services, in excess of that previously considered by the General Plan. The proposed project does not have the potential to affect governmental services or create a need for new facilities, in excess of those previously considered by the General Plan.

Finding. No significant impacts to public services are expected and no mitigation is required.

K. UTILITIES AND SERVICE SYSTEMS

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☒	☐	☐	8,15
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐	8
3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐	8
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☒	☐	☐	8

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?	☐	☒	☐	☐	8
6. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?	☐	☒	☐	☐	8
7. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☒	☐	☐	8

K.1: As discussed in the *Geology and Soils Section*, above, the historic high water at the project site is recorded at 5 ft. bgs. The Regional Water Quality Control Board (RWQCB) requires a minimum of 10 ft. be maintained between seasonal high ground water and the bottom of any filtration facility. This requirement cannot be met, therefore infiltration facilities would require pre-treatment of pavement run-off water, and potentially roof run off water prior to entering any infiltration facilities. Significant infiltration of storm water may not be feasible as a part of a storm water retention/detention program because of the low infiltration rate and the regulatory restrictions. Due to the moderate plasticity of the soils it is required that surface water infiltration adjacent to foundations and pavements are restricted. Bio-swales in conjunction with site storm drainage may be used adjacent to pavements provided that pavement cut-offs are incorporated in the civil plans. This is considered a less than significant impact as mitigated in the Geology and Soils section of this document.

K.2: The City of Mountain View is currently served by water treatment facilities that are equipped to handle the maximum water capacity of the City. Contracts with the San Francisco Public Utilities Commission supply the City with approximately 90 percent of its water and the remaining water supply is from underground wells. The average daily demand for single-family residential is 109 gallons per day (gpd) and 77 gpd for multi-family. The total estimated average water demand in the City for 2004 was 12.3 million gallons per day (mgd). This demand is less than the total water supply contract with the San Francisco Public Utilities Commission for 13.46 mgd. The proposed project will have a less than significant impact on the provision of water.

There is abandoned water well on the site. The well as a condition of project approval shall be closed in accordance with the Santa Clara Valley Water District standards (*Phase I and Screening Level Phase II Environmental Site Assessment, 2.26-Acre Lucky U Motel Property 185 Fairchild Drive Mountain View, CA,* Geotrans Project #: 4960.019.01, Geotrans, Inc., April 13, 2004).

K.3: The City's effluent flows to the Palo Alto Regional Water Quality Control Plant (PARWQCP). The PARWQCP operates as a tertiary treatment facility serving the communities of Palo Alto, Los Altos, Los Altos Hills, Stanford University, and East Menlo Park as well as Mountain View. Mountain View is using only 55 percent of its flow entitlement. Records at that time show a trend toward a decrease in per capita sewage generation, believed to directly result from water conservation programs and the relocation of chip manufacturers out of the area. The proposed project will have a less than significant impact on the provision of sanitary sewer service.

K.4: The project site is currently served with curb, gutter, and storm drain lines. The existing system adequately conveys storm runoff into the San Francisco Bay. The proposed project will have a less than significant impact on the provision of storm drainage facilities.

K.5: Foothill Disposal, a Norcal Company, is the exclusive provider of solid waste services in Mountain View, such as garbage can service, commercial dumpster service, and residential and commercial debris boxes. All solid waste is processed at the SMART Station, located at 301 Carl Road, in Sunnyvale, to remove any remaining recyclables not captured in other City recycling programs. The solid waste is then hauled to the Kirby Canyon Landfill, located at 910 Coyote Creek Golf Drive, in San Jose.

The County of Santa Clara Health Services Department is certified by the California Integrated Waste Management Board as the Local Enforcement Agency (LEA) for solid waste in Santa Clara County. The LEA has the primary responsibility for ensuring the correct operation and closure of solid waste facilities in the state. It also has responsibility for guaranteeing the proper storage and transportation of solid wastes.

Assembly Bill 939 (AB 939), enacted in 1989, requires each city's and county's Source Reduction and Recycling Element to include an implementation schedule to divert 25 percent diversion of its solid waste from landfill disposal by January 1, 1995, through source reduction, recycling, and composting activities, followed by an increase to a 50 percent reduction to the waste stream by January 1, 2000. As of 2004, the total annual waste diversion for Mountain View was approximately 50 percent.

According to Santa Clara's Five-Year Integrated Waste Management Program (2003), Mountain View's estimated waste generation is 11.4 pounds per person per day. In 2004, the city reported a waste generation of 50,424 tons. The estimated total capacity of the Kirby Canyon facility is 21.8 million tons and it is expected to reach capacity by December 21, 2022 (California Integrated Waste Management Board 2005). The Kirby Canyon facility has adequate capacity to accommodate the City's solid waste (California Integrated Waste Management Board 2005). The proposed project will have a less than significant impact on solid waste disposal.

Finding. No impacts to utilities or service systems are expected and no mitigation is required.

L. RECREATION

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☒	☐	☐	8
2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☒	☐	☐	8

L.1: The City has over 1,000 acres of parkland divided among mini-parks, neighborhood parks, community parks, regional parks and open space. The Parks and Open Space Plan identifies a goal of providing 3.0 acres of parks to 1,000 residents. The City has sufficient parkland to meet this goal. New development in the City would be subject to the regulations of the Park Dedication Ordinance, which would contribute to the maintenance and rehabilitation of existing parks and the construction of new parks. Substantial deterioration of existing facilities is not expected to occur as a result of the proposed project.

L.2: The proposed project includes an open space area to be used by the occupants of the project. The proposed project would not require significant alterations or additions to the City's park system that would result in a significant impact.

Finding. No significant impacts to recreation resources are expected and no mitigation is required.

M. AESTHETICS

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐	1,7,8
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐	1,7,8
3. Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐	1,7,8
4. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐	1,7,8

M.1 & 3: The City of Mountain View's CEQA Guidelines state that for a project to have significant visual impacts, it must either be located in an area that is considered to be an aesthetic resource or block views of an aesthetic resource. This project is located in a developed residential area that is not considered an aesthetic resource. The surrounding land uses are single- and multi-family residential. The proposed three-story project would add to the project area by replacing a vacant motel in significant disrepair and replacing it with residential uses that conform to the City's Row House Guidelines (see Land Use and Planning section, above).

M.2: The Lucky U motel was constructed in the 1940's. The motel has not been used as a motel for this past year and is in disrepair. U.S. Highway 101 is not a scenic corridor, and is blocked from view from the project site by a soundwall. The construction of the project (35 or 40 residential units) would improve the area over existing conditions and would not impact an historic resource.

M.4: This project does not include exterior lighting at levels that would create significant light or glare. A standard City condition of project approval is to provide residential lighting in downcast beams.

Finding. No impacts to aesthetic resources are expected.

N. CULTURAL RESOURCES

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	☒	☐	☐	☐	1,22
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	☒	☐	☐	☐	1,22
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐	1,22
4. Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐	1,22

N.1: According to a Cultural Resources Assessment prepared for the City's 1992 General Plan, there are no known paleontological resources in the vicinity of the project site.

N.2: There are no known archaeological resources in the vicinity of the project site

The project site is developed with a motel. The ground has been disturbed and is unlikely to yield archaeological or historical artifacts. In the event of discovery of archaeological artifacts during construction, all activities within a 50-foot radius will be halted and a qualified archaeological monitor will inspect the site within 24 hours. If the find is determined to be significant and merits formal recording or data collection, time and funding will be required to salvage the material. Any archaeologically important data recovered during monitoring will be cleaned, catalogued and analyzed, with the results presented in a report of finding that satisfies professional standards.

N.3: There are no known historical resources in the vicinity of the project site.

N.4: There are no known human remains in the vicinity of the project site. If human remains should be encountered during construction, work will be halted and procedures described in N.2 above will be implemented.

Finding. No impacts to cultural resources are expected and no mitigation is required.

O. MINERAL RESOURCES

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact	Data Sources
1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☒	☐	☐	☐	1,23
2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☒	☐	☐	☐	1,23

O.1 & 2: There are no known mineral resources on or near the site. No impact.

Finding: No impacts to mineral resources are expected and no mitigation is required.

N. AGRICULTURAL RESOURCES

Will the proposed project result in the following environmental effects? Impact	No Impact	Less Than Significant Mitigation	Less Than Significant With Impact	Potentially Significant Impact	Data Sources
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:					
1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☒	☐	☐	☐	1
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐	1
3. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☒	☐	☐	☐	1

N.1: The site is not identified as farm Prime Farmland, Unique Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. No impact.

N.2: The site is not under Williamson Act contract. No impact.

N.3: The site is located in a residential neighborhood and adjacent to a freeway corridor. The site is currently developed. Redevelopment of the site would not trigger conversion of farmland in the vicinity of the project as there is no farmland in the vicinity of the project site. No impact.

Finding: No impacts to agricultural resources are expected and no mitigation is required.

VIII. MANDATORY FINDINGS

Will the proposed project result in the following environmental effects?	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation	Potentially Significant Impact
1. Does the project have the potential to degradethe quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.	☐	☐	☒	☐
2. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
3. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

IV. DETERMINATION

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Peter Dill for Elaine — 8/24/05

Elaine Costello, Director of Community Development — Date

V. LIST OF DATA SOURCES:

1. City of Mountain View General Plan, City of Mountain View, 1992.
2. Evandale Precise Plan (1997 City Reso# 16191).
3. Projections 2005, Association of Bay Area Governments, December 10049.
4. Jobs Housing Nexus Study, Keyser Marston Associates, Inc., February 2001.
5. Trip Generation, 6th Edition, Institute of Transportation Engineers, 1997.
6. Congestion Management Program, Santa Clara Valley Transportation Authority.
7. City staff site visits, July and August 2005.
8. City interdepartmental review conducted April-August 2005.
9. Zoning Code, City of Mountain View.
10. Charles M. Salter, Associates-Acoustical Consultants, letter June 29, 2005.
11. Title 24, California Code of Regulations.
12. Noise Assessment Guidelines
13. Rules and Regulations, Bay Area Air Quality Management District.
14. The San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard and the Bay Area 2000 Clean Air Plan, Bay Area Air Quality Management District.
15. Geotechnical Investigation Classics and Evandale Avenue Mountain View, California, Report No. 899-60, January 21, 2005 by Lowney Associates (Mountain View Office).
16. Flood Insurance Rate Map, Federal Emergency Management Agency, 1988.
17. ABAG website
18. Best Management Practices, City of Mountain View.
19. Blueprint for a Clean Bay, Santa Clara Valley Nonpoint Source Pollution Control Program.
20. Barrie D. Coate, Associates Horticultural Consultants, Job #04-04-052, April 13 and May 6, 2004.
21. Phase I and Screening Level Phase II Environmental Site Assessment, 2.26-Acre Lucky U Motel Property 185 Fairchild Drive Mountain View, CA, Geotrans Project #: 4960.019.01, Geotrans, Inc., April 13, 2004.
22. Alana Lee, EPA Project Manager, telephone and electronic communications July and August 2005.
23. California State Department of Conservation, Division of Mines and Geology.
24. Cultural Resources Assessment for the 1992 General Plan, Basin Research Associates, Inc., August 1990.

APPENDIX A

Noise Report Charles M. Salter, Associates-Acoustical Consultants (June 29, 2005)

Charles M Salter Associates Inc

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System Design
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Brenda R Yee
Eric A Yee
Troy Gimbel
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Randy Waldeck
Jeffrey Clukey
Andrew Stanley
Peter Holst
Ethan Salter
Elaine Y Hsieh
Timothy G. Brown
Claudia Kraehe
Kandice Lee
Josselyn Salter
Candice Huey
Brian Good
Ian Graven
Marva D Noordzee
Debbie Garcia
Jasmine Recidoro

29 June 2005

Scott Ward
Classic Communities, Inc.
1068 East Meadow Circle
Palo Alto, CA 94303

Fax: 650.493.9050

Subject: **Classics at Evandale Avenue**
Environmental Noise Study
CSA Project No: 04-0120

Dear Scott:

This letter summarizes the results of our environmental noise study for the residential project at 185 Fairchild Avenue in Mountain View, California. The purpose of this study is to determine the noise environment at the proposed site, compare the noise environment with applicable standards, and propose mitigation measures as necessary.

The project includes 17 three-story single-family detached homes, 18 three-story attached duplex units, and a common open space near the center of the site. In summary, incorporating sound-rated windows and doors into the project design would reduce interior noise levels to City and State standards. Since windows must be closed to achieve the interior noise goal, an alternate means of providing outside air to the duplex units is necessary and should be discussed with the project mechanical engineer. Estimated future noise levels in the proposed open space are between DNL 62 and 64 dB.

ACOUSTICAL CRITERIA

City of Mountain View General Plan

The City of Mountain View has noise acceptability guidelines in the Noise Element of its General Plan. According to these guidelines, a Day-Night Average Sound Level[1] (DNL) of 45 dB or less is the interior noise goal for residential development. Outdoor noise levels in residential areas are normally acceptable below DNL 55 dB, and conditionally acceptable up to DNL 65 dB.

[1] Day-Night Average Sound Level (DNL) — A descriptor established by the U.S. Environmental Protection Agency to represent a 24-hour average noise level with a penalty applied to noise occurring during the nighttime hours (10 p.m. - 7 a.m.) to account for the increased sensitivity of people during sleeping hours.

The General Plan also outlines the "Stationary Equipment Noise Ordinance," restricting noise levels from stationary equipment to 55 dB or lower at neighboring residential properties.

California Building Code

The California Building Code (CBC), contains acoustical requirements for interior sound levels in habitable rooms of multi-family housing[2]. In summary, the CBC requires that interior noise levels attributable to exterior sources not exceed a DNL of 45 dB in any habitable room. Projects exposed to an exterior DNL of 60 dB, or greater, require an acoustical analysis showing that the proposed design will limit interior levels to the prescribed allowable interior level. Additionally, if allowable interior noise levels are met by requiring that windows be closed, then the design must also specify a ventilation or air-conditioning system to provide a habitable interior environment.

NOISE ENVIRONMENT

Environmental noise is dominated by vehicular traffic on the Bayshore freeway (US-101), located across Fairchild Avenue to the north. The Lucky U Motel currently occupies the site. Moffett Field is located across US-101; however we understand it is used irregularly, therefore contributing little to the DNL.

To quantify the existing noise environment, we conducted noise measurements from the 22nd to 23rd of April 2004. Two long-term 24-hour and three 15-minute measurements were taken to determine how noise levels vary across the site and at different elevations.

Table 1, below, summarizes existing and estimated future noise levels. Estimated future noise levels are the basis of the noise mitigation recommendations in the Analysis and Recommendations section, below.

Table 1: Existing and Estimated Future Noise Levels at the Proposed Building Setback

Location	Existing DNL	Future DNL
55-ft south of Fairchild Avenue centerline	69 dB	70 dB
35-ft. north of Evandale Avenue centerline	64 dB	65 dB

The DNLs shown above represent noise levels at the approximate height of first floor receivers. Due to decreased shielding from US-101 to the north, noise levels are approximately two decibels higher for second story and five decibels higher for third story elevations.

[2] Title 24, Part 2: California Building Code, Appendix Chapter 1208A

The estimated future increase in noise corresponds with a three-percent per year increase in traffic volume along US-101, over a ten-year span. This rate of traffic volume increase is typically used by Caltrans when predicted future volume data area not available.

ANALYSIS AND RECOMMENDATIONS

Exterior-to-Interior Noise

To achieve the DNL 45 dB interior noise criterion, it will be necessary for the exterior façades of some units to be sound-rated. Table 2 shows minimum window and door Sound Transmission Class[3] (STC) ratings , based on the information in the floor plans and building elevations dated 20 May 2005. For reference, construction-grade dual-pane windows typically achieve an STC rating of 27; we have assumed the windows in locations and rooms not listed in Table 2 will achieve this rating.

Table 2: Minimum STC Ratings to Achieve an Interior DNL of 45 dB

Location	Rooms	STC
Lots 28 through 35	Living/Dining Room	36
	Entry Door	33
	Bedroom 3, Loft, Bath 2, Master Bedroom	30
Lots 18 through 27	Master Bedroom, Master Bath	30

The entire project site is exposed to a DNL of 60 dB or greater. Windows must be closed to achieve the interior noise criterion, the CBC requires that an alternate method of supplying ventilation (i.e., mechanical ventilation, or air-conditioning) for duplex units. This issue should be discussed with the project mechanical engineer.

Exterior Noise

The project includes a common open space near the center of the site. Transportation-related noise from vehicles on US-101 would be shielded at this space by the existing highway noise barrier and proposed duplex units. Estimated future noise levels in this open space range between DNL 62 and 64 dB, and are indicated in Figure 1, attached.

Most of the noise reduction across the site is provided by the highway noise barrier. Incorporating additional noise barriers or buildings which effectively fill in the gaps between duplex buildings would reduce noise levels in the common open space to 60 to 62 dB.

---

[3] Sound Transmission Class (STC) — A single-figure rating standardized by ASTM and used to rate the sound insulation properties of building partitions. The STC rating is derived from laboratory measurements of a particular building element and as such is representative of the maximum sound insulation. Increasing STC ratings correspond to improved noise isolation.

Stationary Noise Sources

The project should incorporate proper mitigation to reduce noise from air-conditioning units and other stationary equipment to the levels outlined in the General Plan. Mitigation may include equipment selection and location and, if necessary, equipment enclosures. Details of mitigation measures should be determined during the design phase. We are available to assist you with this analysis if needed.

Please call with any questions.

Sincerely,

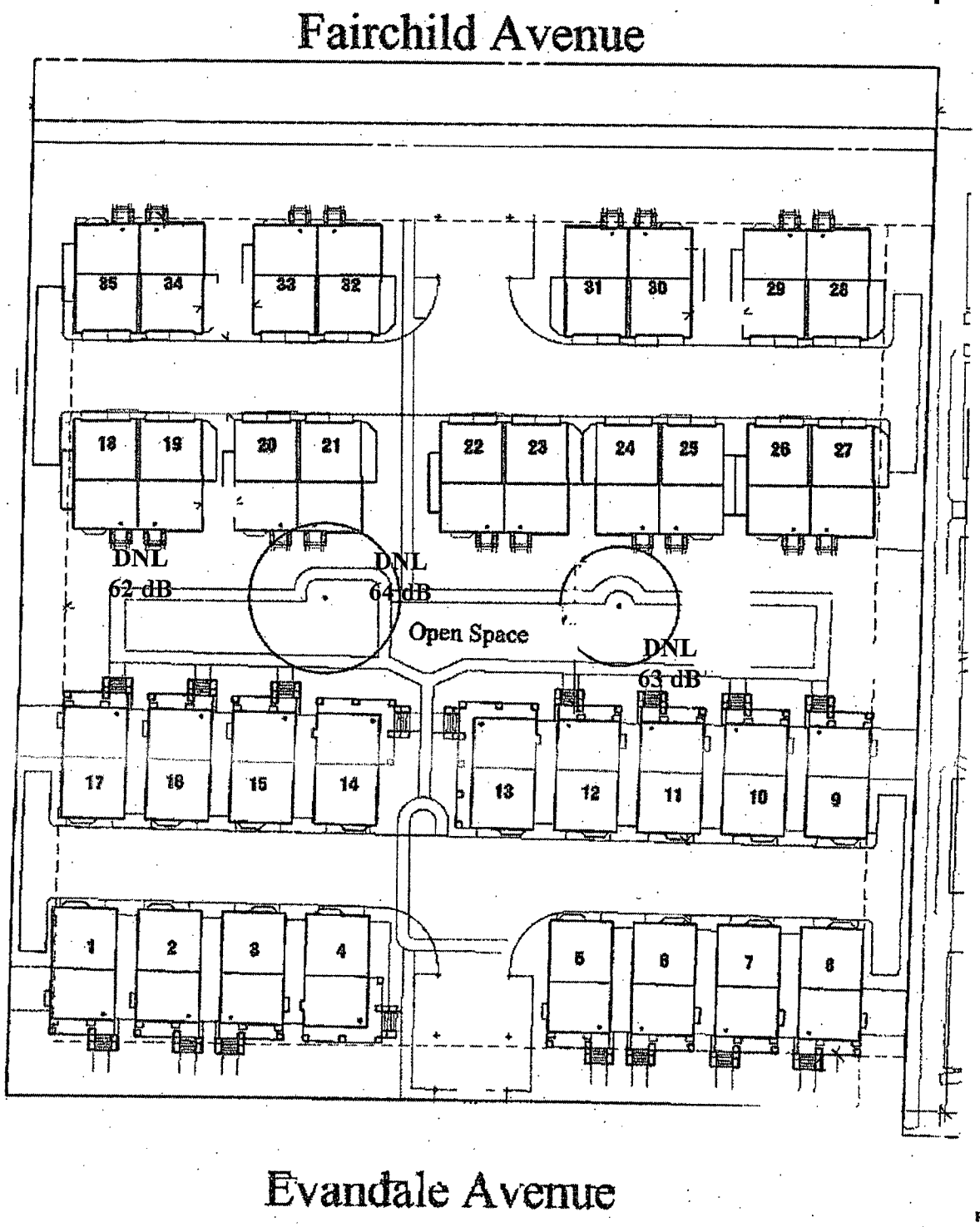
CHARLES M. SALTER ASSOCIATES, INC.

Jeffrey Clukey
Consultant

Eric L. Broadhurst, P.E.
Vice President

JMR\JWC
Cc: Jonathan Stone

US-101



CLASSICS AT EVANDALE AVENUE SITE PLAN WITH ESTIMATED FUTURE NOISE LEVELS IN OPEN SPACE

FIGURE 1

Project No. 04-0120
JMR

Charles M Salter Associates Inc 325 S. First Street Suite 160 San Jose California 95113 Tel: 408 295 4944 Fax: 408 295 4949

Charles M Salter Associates Inc

To: Jonathan Stone
Classic Communities, Inc.
1068 East Meadow Circle
Palo Alto, California 94303
Fax: 650.493.9050

From: Jeffrey Clukey
Date: 14 July 2005
Re: Classics at Evandale Avenue
CSA Project No. 04-0120

This memo responds to the 6 July 2005 comments from Allison Wollam with the City of Mountain View. Our responses are in **bold** typeface.

1) Provide an area plan indicating where the 24-hour noise measurements were taken. The area plan is in addition to the narrative of the measurement locations.

   A site plan with 24-hour noise measurement locations is attached.

2) Provide 24-hour noise measurements on a Tuesday, Wednesday or Thursday of the week. The Thursday, April 22 to Friday April 23, 2004 provides a more liberal interpretation of the noise environment. Typically noise measurements that are taken in the middle of the week more accurately reflect a reasonable worst-case analysis for environmental evaluation. A middle of the week analysis will capture a reasonable portrait of truck trips along HWY 101 as well as commuter traffic. Truck trips will affect the site considerably. Or, provide a rational as to why the noise study provided reasonably reflects a conservative noise analysis on the site.

   The FTA[1] states the following procedure for noise exposure measurements:

   > **"For residential land uses, measure a full 24-hour's L_{dn} at the receiver of interest, for a single weekday (generally between noon Monday and noon Friday)."**

3) Identify the % trucks in the traffic stream, the L_{max} and the frequency of the Moffett airfield use.

   Per the published Caltrans data for 2003, the percentage of trucks relative to the AADT on the segment of US-101 adjacent to the project site is 3.81%.

   We are not aware of current noise contours for Moffett Field. The observed maximum noise level at the site due to aircraft is 64 dB. Given the limited and irregular incidence of aircraft activity, it is not possible to generalize noise impacts from the observed maximum noise level.

---

[1] *Transit Noise and Vibration Impact Assessment.* Federal Transit Administration (FTA). Prepared by Harris Miller Miller & Hanson, Inc. 1995. p 2-29.

4) *Page 1 Paragraph 2, lines 3 & 4 of the Letter* states that "In summary, incorporating sound-rated windows and doors.... would reduce interior noise levels to City standards." Define the standard used.

The three paragraphs following the summary paragraph identify which standards are used.

5) *Page 2 Last Paragraph* states "DNL's above represent the noise levels at the approximate height of the first floor receivers. ....noise levels on the second story are approximately two decibels higher and five decibels higher for the third story." Show this data in the table on page 2. A five dB increase is a significant impact under CEQA.

CEQA guidelines determine the level of impact based on a comparison of existing and future noise levels; it does not address the variation in noise level with elevation. The recommended STC ratings in Table 2 of the noise assessment letter account for the higher noise levels at the upper floors.

6) *Page 3 Table 2*: Why is lot 27 excluded from the 36 STC rating requirement?

Per the site plan dated 20 May 2005, Lot 27 is included in the second row of houses, not the first. Therefore, based on our calculations, STC 36 windows are not required at Lot 27.

7) *Page 3 Paragraph 3:* The requirement for mechanical ventilation or air-conditioning must be addressed now. The location or type of equipment could cause off-site noise impacts. Please provide recommendations for the equipment, proposed location, and noise levels and mitigations to meet the City's criterion of 55 dB at the property lines.

The timing of mechanical equipment selection and placement is not in our purview. The mechanical ventilation requirement states only that an alternative to open windows is necessary where the exterior L_{dn} is over 60 dB. In our experience, the alternative may not include outdoor equipment, and therefore would not affect the property line noise level.

8) *Page 3 Paragraph5:* What type of noise barriers (referenced in this paragraph) would reduce noise exposure to the open space? Identify design and location.

A 30-foot high barrier constructed between the second row of structures parallel to the freeway (i.e. connecting the buildings together via a 30-ft wall) would reduce noise levels in the open space by about 2 dB. As noted in the noise assessment letter, the existing highway noise barrier provides the majority of the traffic noise mitigation for the open space. In addressing reasonableness of the noise abatement measure, the FHWA requires that

> **"(1) the views of the impacted residents be a major consideration, and (2) the overall noise abatement benefits outweigh the overall adverse social, economic, and environmental effects, as well as the abatement cost."[2]**

---

[2] *Transit Noise and Vibration Impact Assessment.* Federal Transit Administration (FTA). Prepared by Harris Miller Miller & Hanson, Inc. 1995. p 3-11.

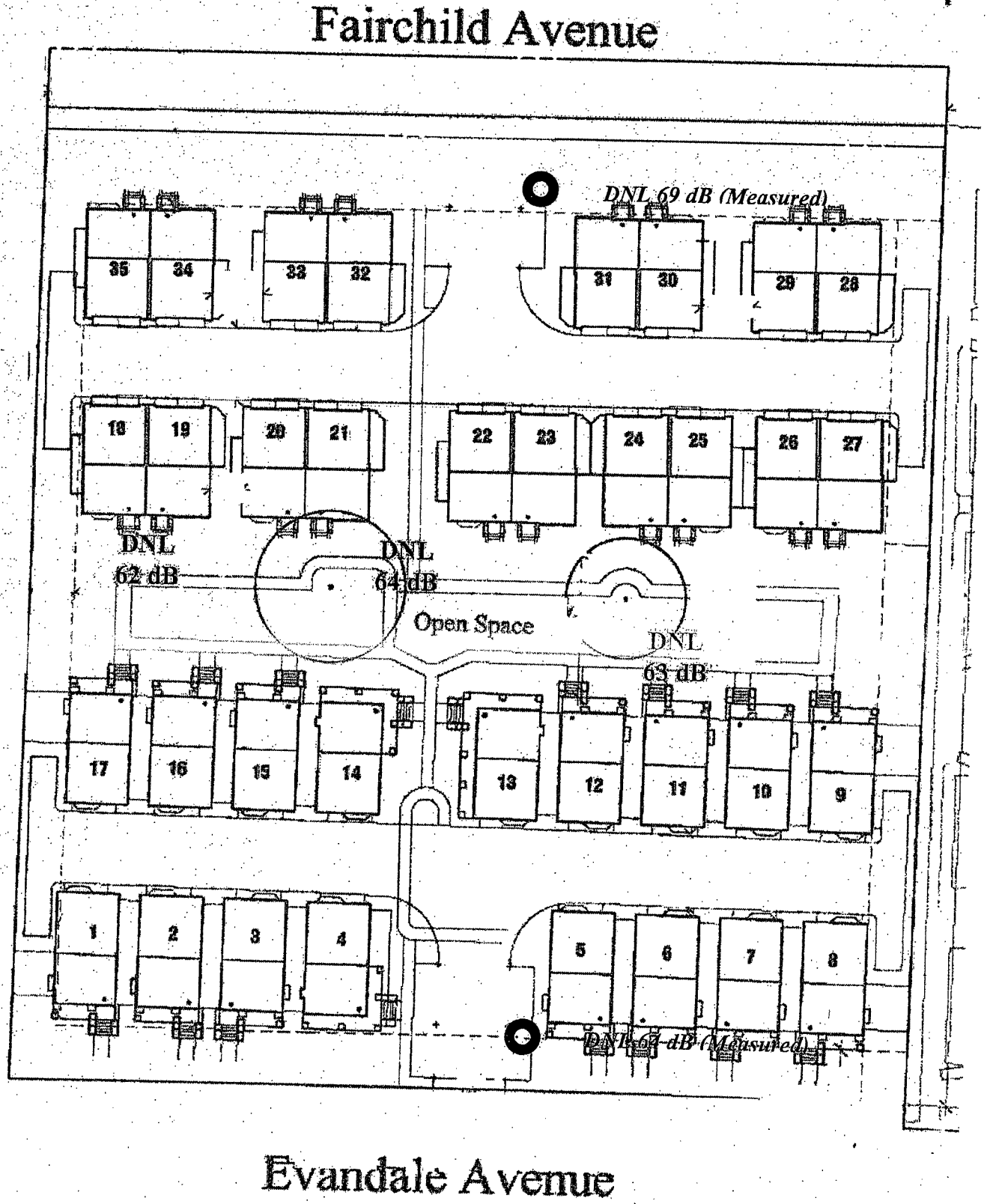
9) How was the estimated future noise levels in the open space area (62-64 dB) reached? Please provide a brief narrative of the reasoning and attenuation factors that leads to this conclusion.

Estimated future noise levels in the open space were determined through a combination of measurements at the site, calculated attenuation with distance, and calculated shielding from the highway noise barrier and the proposed buildings.

- **Attenuation with distance is taken as 3 dB per doubling of distance, as is consistent with the FHWA guideline for line sources.**
- **Barrier noise reduction is per the equations in Tables 6-9 and 6-10 of the FTA *Transit Noise and Vibration Impact Assessment* document.**

Please do not hesitate to call if you have any questions.

US-101



Charles M Salter Associates Inc 325 South First Street Suite 160 San Jose California 95113 Tel: 408 295 4944 Fax: 408 295 4949

APPENDIX B

Geotechnical Investigation Classics and Evandale Avenue Mountain View, California, Report No. 899-60, January 21, 2005 by Lowney Associates (Mountain View Office).

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

Geotechnical Investigation

Classics at Evandale Avenue

Mountain View, California

Report No. 899-60 has been prepared for:

Classic Communities, Inc.

1068 East Meadow Circle, Palo Alto, California 94303

January 21, 2005

Minh Le
Senior Staff Engineer

Scott E. Fitinghoff, P.E., G.E.
Senior Project Engineer
Geotechnical Project Manager

Laura C. Knutson, P.E.
Senior Project Engineer
Quality Assurance Reviewer

TABLE OF CONTENTS

GEOTECHNICAL INVESTIGATION
CLASSICS AT EVANDALE AVENUE
MOUNTAIN VIEW, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of our geotechnical investigation for Classics at Evandale Avenue in Mountain View, California. The approximate location of the site is shown on the Vicinity Map, Figure 1. The purpose of our investigation was to evaluate the subsurface conditions at the site and to provide geotechnical recommendations for design and construction of the proposed residential development. For our use, we received a topographic map prepared by BKF Engineers, dated December 13, 2004.

1.1 Project Description

The site consists of two parcels, Parcels A and B, which total about 2.3 acres. As presently planned, the project will consist of demolishing the existing Lucky U Motel building and constructing townhomes and/or single-family detached homes. We understand that the proposed residential buildings will be two to three-stories, wood-framed structures with concrete slab-on-grade garage floors. We also understand that permeable pavers may be constructed. Associated underground utilities, pavements, and landscaping are also planned as part of the site development.

Structural loads and site grading have not yet been determined; we assume that structural loads will be representative for this type of construction, and that only minor grading will be required.

1.2 Scope of Services

Our scope of services was presented in detail in our agreement with you dated December 14, 2004. To accomplish this work, we provided the following services:

- Exploration of the subsurface conditions by drilling three borings, advancing two Cone Penetration Tests (CPTs), and retrieving soil samples for visual observation and laboratory testing.
- Evaluation of the physical and engineering properties of the subsurface soils by visually classifying the samples and performing various laboratory tests on selected samples.
- Interpretation of the subsurface soils by correlating our CPT data with the borings and laboratory testing data.
- Engineering analysis to evaluate site earthwork, building foundations, slabs-on-grade, permeable pavers, and pavements.
- Preparation of this report to summarize our findings and to present our conclusions and recommendations.

2.0 SITE CONDITIONS

2.1 Exploration Program

Subsurface exploration was performed on December 27, 2004 and January 3 and 4, 2005, using conventional, truck-mounted CPT and hollow-stem auger drilling equipment. We hydraulically pushed two CPTs to a depth of 50 feet. We also drilled three exploratory borings to depths ranging from 34 to 45 feet. The CPTs and borings were backfilled with cement grout in accordance with Santa Clara Valley Water District guidelines. A representative bulk sample of the surface soil was obtained for pavement design purposes. The approximate locations of the borings and CPTs are shown on the Site Plan, Figure 2. Our boring and CPT logs and details regarding our field investigation are included in Appendix A; our laboratory tests are discussed in Appendix B; a soil corrosion evaluation report prepared by JDH Corrosion Consultants is attached in Appendix C.

2.2 Surface Conditions

We also performed a brief surface reconnaissance during our site exploration. The site is located at 180 Evandale Avenue and 185 Fairchild Drive in Mountain View, California. The site consisted of two parcels located in a residential neighborhood. Parcel A, located at 180 Evandale Avenue, is currently vacant. It appeared that some fill was previously placed at the site to build an approximately 2-foot-high landscape mound along the Evandale frontage. Parcel B, located at 185 Fairchild Drive, is currently occupied by the single-story, Lucky U Motel Building with associated at-grade pavements and a concrete V-ditch that wrapped around the entire building. Landscape areas with some mature trees were also present. We are not aware of any existing below-grade levels associated with the building. Topographic information provided by BKF Engineers indicated that site grades ranged from about Elevation 37 to 39 feet. The landscape mound along the Evandale frontage has an elevation of about 40 to 41 feet. In general, the site appeared relatively level with some minor variations in grade across the parcels.

2.3 Subsurface Conditions

Borings EB-1 and EB-2 were drilled on the landscape mound at Parcel A and encountered about 2½ feet of medium stiff to stiff silt (undocumented fill). Below this fill, our borings encountered generally medium stiff to very stiff clay to the maximum depth explored of 45 feet. Boring EB-2, however, encountered a layer of medium dense sand between depths of about 27 to 33½ feet.

Boring EB-3, CPT-1, and CPT-2 were performed on Parcel B and drilled through an existing pavement section consisting of about 2 inches of asphalt concrete over 4 inches of aggregate base. Boring EB-3 was drilled adjacent to CPT-2 for subsurface correlation. CPT-1 encountered predominantly medium stiff to very stiff clay to the maximum depth explored of 50 feet. CPT-2 encountered about 20½ feet of medium stiff to very stiff clay over medium dense sand to a depth of about 24 feet. Below 24 feet, medium stiff to stiff clay was encountered to a depth of about 32½ feet. This clay was underlain by dense sand to a depth of about 46 feet. Below 46 feet, stiff silt was encountered to maximum depth explored of 50 feet.

Plasticity Index (PI) tests were performed on two representative soil samples obtained from Borings EB-1 and EB-3 at a depth of 2 feet. The test results exhibited a Liquid Limit (LL) of 48 and a PI of 11 for the silt (undocumented fill) encountered in Boring EB-1, indicating low to moderate plasticity and expansion potential. The test results, however, exhibited a LL of 46 and a PI of 25 for the native clay encountered in Boring EB-3, indicating moderate plasticity and expansion potential for the native clay.

2.4 Ground Water

Free ground water was encountered in our explorations at depths ranging from about 7½ to 10 feet below the existing ground surface. Please note the ground water depth measurements were taken at the time of drilling, and all explorations were backfilled immediately after drilling and may not reflect stabilized ground water levels. The ground water table in the vicinity is generally considered to be at a depth on the order of 5 feet, according to mapping by the California Geological Survey (CGS, 2003). Therefore, we used a design ground water level of 5 feet for our liquefaction analyses. Fluctuations in the level of the ground water may occur due to variations in rainfall, perched water conditions, and other factors not in evidence at the time our measurements were made.

2.5 Site Infiltration

Our explorations indicate the site is blanketed by at least 20 feet of low to moderate plasticity clays. Therefore, we judge the site infiltration rate will be low for any proposed site detention/retention facilities. As discussed above, ground water was encountered at shallow depths. The Regional Water Quality Control Board (RWQCB) requires that a minimum of 10 feet be maintained between the seasonal high ground water level and the bottom of any infiltration facility, which would require pre-treatment of pavement runoff water and potentially roof runoff prior to entering any infiltration facilities.

3.0 GEOLOGIC HAZARDS

A qualitative evaluation of geologic hazards was made during this investigation. Our comments concerning these hazards are presented below.

3.1 Fault Rupture Hazard

A Regional Fault Map illustrating known active faults relative to the site is presented on Figure 3. The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (known formerly as a Special Studies Zone). As shown on Figure 3, no known surface expression of active faults is believed to cross the site. Fault rupture through the site, therefore, is not anticipated.

3.2 Ground Shaking

Strong ground shaking can be expected at the site during moderate to severe earthquakes in the general region. This is common to all properties in the San Francisco Bay Area. The "Seismicity" section that follows summarizes potential levels of ground shaking at the site.

3.3 Liquefaction

3.3.1 General Background

The site is located within an area zoned by the State of California as having potential for seismically induced liquefaction hazards (CGS, 2003 – Mountain View Quadrangle) and in a Santa Clara County Geologic Hazard Zone (Santa Clara County, 2003) mapped liquefaction zone. During cyclic ground shaking, such as during earthquakes, cyclically induced stresses may cause increased pore water pressures within the soil matrix, resulting in liquefaction. Liquefied soil may loose shear strength that may lead to large shear deformations and/or flow failure under moderate to high shear stresses, such as beneath foundations or sloping ground (Youd, et al., 2001), and in many ways may behave more like a liquid than a solid. Liquefied soil can also settle (compact) as pore pressures dissipate following an earthquake. Limited field data is available on this subject; however, in some cases, settlement on the order of 2 to 3 percent of the thickness of the liquefied zone has been measured.

Soils most susceptible to liquefaction are loose to moderately dense, saturated non-cohesive soils with poor drainage, such as sands and silts with interbedded or capping layers of relatively low permeability soil.

3.3.2 Methods of Analysis

As noted in the subsurface description above, several sand and silt layers were encountered below the design ground water depth of 5 feet. These layers were evaluated to assess liquefaction potential and the effects liquefaction may have on the proposed structures.

Our liquefaction analyses followed the methods presented by the 1998 NCEER Workshops (Youd, et al., 2001) in accordance with guidelines set forth in CDMG Special Publication 117 (CDMG, 1997). The NCEER methods for SPT and CPT analyses update simplified procedures presented by Seed and Idriss (1971).

In broad terms, these methods are used to calculate a factor of safety against liquefaction triggering by comparing the resistance of the soil to cyclic shaking to the seismic demand that can be caused during seismic events.

The resistance to cyclic shaking is quantified by the Cyclic Resistance Ratio (CRR), which is a function of soil density, layer depth, ground water depth, earthquake magnitude, and soil behavior. CRR calculations are based on SPT blow counts and CPT tip resistance. To account for effective overburden stresses and soil behavior, we corrected the field measured SPT blow counts for overburden, stress reduction versus depth, fine-grained soil content, hammer energy ratio, boring diameter, rod length and sampling method (SPT sampler without liners). Our CPT tip pressures were corrected for overburden and fines content. The CPT method utilizes the soil behavior type index (I_C) and the exponential factor "n" applied to the Normalized Cone Resistance "Q" to evaluate how plastic the soil behaves.

The Cyclic Stress Ratio (CSR) is used to quantify the stresses that are anticipated to develop during cyclic shaking. The formula for CSR is shown below:

$$CSR = 0.65(\frac{a_{max}}{g})(\frac{\sigma_{vo}}{\sigma'_{vo}})r_d$$

where a_{max} is the peak horizontal acceleration at the ground surface generated by an earthquake, g is the acceleration of gravity, σ_{vo} and σ'_{vo} are total and effective overburden stresses, respectively, and r_d is a stress reduction coefficient. We use a probabilistic pseudo-peak horizontal acceleration of 0.54g, corresponding to a 10 percent chance of exceedance in 50 years. Pseudo-peak ground accelerations have been normalized to a 7.5Mw seismic event, weighted to account for regional seismic activity and fault distances.

Soils that have significant amounts of plastic fines (greater than about 25 percent) or an I_C greater than 2.6, and soils with corrected SPT blow counts greater than 30 blows per foot or corrected CPT tip resistances greater than 160 are considered either too plastic or too dense to liquefy. Such soil layers have been screened out during our analysis and are not presented below.

The FS against liquefaction can be expressed as the ratio of the CRR to CSR. If the FS for a soil layer is less than 1.0, it is possible that the soil layer may liquefy during a moderate to large seismic event.

$$FS = \frac{CRR}{CSR}$$

A summary of our analysis CPT data are presented in the table below. An analysis was not performed on the SPT data collected in hollow stem borings since blow counts in hollow stem borings may be unreliable in sands below the ground water table.

Table 1. Results of Liquefaction Analyses

CPT Number	Depth to Top of Sand or Silt Layer (feet)	Layer Thickness (feet)	q_{c1N} (tsf)	$*q_{c1N-cs}$ (tsf)	Factor of Safety	Estimated Total Settlement (in.)	Estimated Differential Settlement (in.)
CPT-1	26.5	0.5	45	77	0.2	0.2	0.1
CPT-1	43	1.5	100	141	0.7	0.2	0.1
CPT-1	46.5	0.3	26	64	0.2	0.1	0.1
						0.5	**0.3**
CPT-5	20.5	3.5	117	133	0.6	0.8	0.4
CPT-5	33	1.5	110	148	0.7	0.2	0.1
						1.0	**0.5**

* CPT tip pressure corrected for overburden and fines content

3.3.3 Summary of Analysis Results

Our analyses indicate that several sand and silt layers theoretically can liquefy, resulting in about ½- to 1-inch of total settlement. Estimates of volumetric change and settlement were determined by the Ishihara and Yoshimine (1992) method. As discussed in the SCEC report, differential movement for level ground, deep soil sites,

will be about half of the total estimated settlement, which yields about ¼- to ½-inch of differential settlement.

The methods of analysis used to determine estimated total settlement do not take into account the possibility of surface ground rupture. In order for liquefaction induced sand boils or fissures to occur, the pore water pressure induced within the liquefied strata must exert a large enough force to break through the surface layer. There is at least 20½ feet of non-liquefiable material overlying the liquefiable layers at the site. Based on work by Youd and Garris (1995), it is our opinion that there is enough of a cap of non-liquefiable material to prevent ground rupture at the site and that the above estimates of liquefaction induced settlement are reasonable.

3.4 Differential Compaction

If near-surface soils vary in composition both vertically and laterally, strong earthquake shaking can cause non-uniform compaction of the soil strata, resulting in movement of the near-surface soils. Because the subsurface soils encountered at the site are generally medium stiff to very stiff clays and medium dense to dense sands, uniform in composition, and do not appear to change in thickness or consistency abruptly over short distances, and provided that the undocumented fill be removed and replaced as engineered fill, we judge the probability of significant differential compaction at the site to be low.

3.5 Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. Since there are no channels close to the site, we judge the probability of lateral spreading occurring at the site during a seismic event to be low.

4.0 SEISMICITY

4.1 Regional Active Faults

The San Francisco Bay Area is one of the most seismically active regions in the United States. The significant earthquakes that occur in the Bay Area are generally associated with crustal movement along well-defined, active fault zones of the San Andreas Fault system, which regionally trend in a northwesterly direction. The San Andreas Fault, which generated the great San Francisco earthquake of 1906, passes 8.3 miles southwest of the site. Three other active faults in the site region are the Hayward Fault, located 11.6 miles to the northeast, the Calaveras Fault, located 14.1 miles to the northeast, and the potentially active Monte Vista - Shannon Fault, located 5.3 miles to the southwest.

4.2 Maximum Estimated Ground Shaking

According to Figure 3.5 of Seismic Hazard Zone Report 060 (CSG – 2003, Mountain View Quadrangle), the magnitude-weighted pseudo-peak acceleration for the site with a 10 percent chance of exceedance in 50 years is approximately 0.54g.

4.3 Future Earthquake Probabilities

Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when or where an earthquake will occur. The U.S. Geological Survey's Working Group on California Earthquake Probabilities (2003), referred to as WG03, determined there is a 62 percent chance of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay region between 2003 and 2032. This result is an important outcome of WG03's work, because any major earthquake can cause damage throughout the region.

The 1989 Loma Prieta earthquake demonstrated this potential by causing severe damage in Oakland and San Francisco, more than 50 miles from the fault rupture. Although earthquakes can cause damage at a considerable distance, shaking will be very intense near the fault rupture. Therefore, earthquakes located in urbanized areas of the region have the potential to cause much more damage than the 1989 Loma Prieta earthquake.

4.4 CBC Site Coefficients

The CGS issued maps locating "Active Fault Near-Source Zones" to be used with the 2001 California Building Code (CBC) ("Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada," CDMG/ICBO February 1998). Faults are classified as either "A," "B," or "C" as shown below. Only faults classified as "A" or "B" are mapped since faults classified as "C" do not increase the near-source factor.

Table 2. Seismic Source Definitions

Seismic Source Type	Seismic Source Description	Seismic Source Definition*	
		Maximum Moment Magnitude, M	Slip Rate, SR (mm/yr)
A	Faults that are capable of producing large magnitude events and that have a high rate of seismic activity.	M ≥ 7.0	SR ≥ 5
B	All faults other than Types A and C.	M ≥ 7.0 M < 7.0 M ≥ 6.5	SR < 5 SR > 2 SR < 2
C	Faults that are not capable of producing large magnitude earthquakes and that have a relatively low rate of seismic activity.	M < 6.5	SR ≤ 2

*Note: Both maximum moment magnitude and slip rate conditions must be satisfied concurrently when determining seismic source type.

The following table lists Type A and Type B faults within 25 kilometers of the site:

Table 3. Approximate Distance to Seismic Sources

Fault	Seismic Source Type	Distance (kilometers)	Distance (miles)
**Monte Vista - Shannon	B	8.5	5.3
*San Andreas (1906)	A	13.3	8.3
Hayward (Southeast Extension)	B	15.9	9.9
Hayward (Total Length)	A	18.6	11.6
Calaveras	B	22.5	14.1

*Nearest Type A fault
**Nearest Type B fault

Based on our explorations and maps of Santa Clara County (Rogers and Williams, 1974), the site is underlain by alluvial soils extending to depths on the order of 500 feet and corresponding to a 2001 CBC stiff soil profile (S_D). Based on this information and local seismic sources, the site may be characterized for design based on Chapter 16 of the 2001 CBC using the information in Table 4.

Table 4. 2001 CBC Site Categorization and Site Coefficients

Categorization/Coefficient	Design Value
Soil Profile Type (Table 16-J)	S_D
Seismic Zone (Figure 16-2)	4
Seismic Zone Factor (Table 16-I)	0.4
Seismic Source Name	San Andreas
Seismic Source Type (Table 16-U)	A
Distance to Seismic Source (kilometers)	13.3
Near Source Factor N_a (Table 16-S)	1.00
Near Source Factor N_v (Table 16-T)	1.07
Seismic Coefficient C_a (Table 16-Q)	0.44
Seismic Coefficient C_v (Table 16-R)	0.68

5.0 WATER SOLUBLE SULFATE EVALUATION

To evaluate the corrosion potential of the near-surface soils at the site with respect to Portland cement concrete (PCC), we submitted five soil samples collected during our field exploration to an analytical laboratory for water soluble sulfate content testing. The results of this test are summarized in Table 5 below.

Table 5. Results of Water Soluble Sulfate Testing

Soil Sample	Depth (feet)	Water-Soluble Sulfate (SO_4) in soil, mg/kg
EB-1	3.5	118
EB-2	2.0	<5
EB-2	4.0	126
EB-3	1.5	108
EB-3	4.5	106

Sulfate ions in the soil can lower soil resistivity and can be highly aggressive to PCC by combining chemically with certain constituents of the concrete, principally tricalcium aluminate. This reaction is accompanied by expansion and eventual disruption of the concrete matrix. A potentially high sulfate content could also cause corrosion of the reinforcing steel in concrete. Table No. 19-A-4 of the 2001 CBC provides requirements for concrete exposed to sulfate-containing solutions as summarized in Table 6.

Table 6. Relationship Between Sulfate Concentration and Sulfate Exposure (CBC Table No. 19-A-4)

Water-Soluble Sulfate (SO_4) in soil, mg/kg	Sulfate Exposure
0 to 1,000	Negligible
1,000 to 2,000	Moderate[1]
2,000 to 20,000	Severe
over 20,000	Very Severe

[1] = seawater

Based on the laboratory test results shown in Table 5 and correlations shown in Table 6, it is our opinion that on-site near-surface soils would have negligible impact to PCC with respect to sulfate exposure. This is relatively consistent with the findings by JDH Corrosion Consultants.

6.0 CORROSION EVALUATION

To evaluate the corrosion potential of the subsurface soils at the site with respect to underground utilities, we submitted three samples collected during our subsurface investigation to an analytical laboratory for pH, soluble sulfate, resistivity, and chloride content testing. We also subcontracted with JDH Corrosion Consultants, Inc. to prepare a report summarizing the site corrosion potential. Their report is presented in Appendix C of this report.

7.0 CONCLUSIONS AND DEVELOPMENT CONSIDERATIONS

7.1 General

From a geotechnical engineering viewpoint the proposed development may be constructed as planned, provided design and construction are performed in accordance with the geotechnical recommendations presented in this report.

The primary geotechnical concerns at the site are as follows:

- Expansive soils
- Undocumented Fill
- Potentially liquefiable sand and silt layers
- Relatively shallow ground water

For this report, we have prepared a brief description of the issues and presented typical approaches to manage potential concerns associated with the long-term performance of the development.

7.2 Expansive Soils

The near-surface clays have moderate plasticity and expansion potential. To reduce the potential for damage to the planned structures, we recommend that slabs-on-grade have sufficient reinforcement and be supported on a layer of non-expansive fill. We understand that Classic Communities, Inc. would like to support the planned structures on post-tensioned mat foundations, which will be designed to accommodate the estimated expansion potential of on-site clays. Detailed recommendations are presented in the following sections of this report.

7.3 Undocumented Fill

Borings EB-1 and EB-2 encountered about 2½ feet of undocumented fill. To reduce damage to the planned structures, we recommend that this fill be removed and replaced as engineered fill. Detailed recommendations are presented in the following sections of this report.

7.4 Liquefiable Sand Layers

As reported above, our analyses indicated that some of the sand and silt layers may theoretically liquefy and cause differential settlement to the foundations. Therefore, foundations should be designed to resist or accommodate this additional movement. Detailed recommendations are presented in the "Foundations" section of this report.

7.5 Shallow Ground Water

Ground water may significantly impact grading and below-grade construction. These impacts typically consist of potentially wet and unstable subgrade soils, difficulty achieving compaction, and difficult underground utility installation. As previously discussed, ground water was encountered in our explorations at depths about 7½ to 10 feet below the existing ground surface and may fluctuate higher, up to 5 feet below the existing ground surface, seasonally. Therefore, the contractor should be aware

that excavations extending near or below ground water may need to be stabilized and/or dewatered to facilitate placement and compaction of structures and backfill.

7.6 Plans, Specifications, and Construction Review

We recommend that our firm perform a plan review of the geotechnical aspects of the project design for general conformance with our recommendations. In addition, subsurface materials encountered in the relatively small diameter, widely spaced borings and CPTs may vary significantly from other subsurface materials on the site. Therefore, we also recommend that a representative of our firm observe and test the geotechnical aspects of the project construction. This will allow us to form an opinion about the general conformance of the project plans and construction with our recommendations. In addition, our observations during construction will enable us to note subsurface conditions that may vary from the conditions encountered during our investigation, and if needed, provide supplemental recommendations. For the above reasons, our geotechnical recommendations are contingent upon our firm providing geotechnical observation and testing services during construction.

8.0 EARTHWORK

8.1 Clearing and Site Preparation

The site should be cleared of all surface and subsurface deleterious materials including existing foundations, slabs, pavements, fills, debris, buried utility lines, trees, shrubs and associated roots. Abandonment of existing buried utilities is discussed below. Excavations extending below the planned finished site grades should be cleaned and backfilled with suitable material compacted as recommended in the "Compaction" section of this report. We recommend that backfilling of holes or pits resulting from demolition and removal of existing building foundations and buried structures be carried out under our observation and that the backfill be tested during placement.

After clearing, any vegetated areas should be stripped to sufficient depth to remove all surface vegetation and topsoil containing greater than 3 percent organic matter by weight. At the time of our field investigation, we estimated that a stripping depth of approximately 2 to 3 inches would be required in vegetated areas. The actual stripping depth required depends on site usage prior to construction and should be established in the field by us at the time of construction. The stripped materials should be removed from the site or may be stockpiled for use in landscaped areas, if desired.

Alternatively, the vegetated areas may be prepared for grading by mowing all surface vegetation so that only 1 to 2 inches of stubble remains. After removing the mowed vegetation from the site, the ground should be disked in two directions to a depth of at least 12 inches. In our opinion, this procedure should adequately mix the remaining organic root layer with the underlying soils prior to grading

8.2 Removal Of Undocumented Fill

Borings EB-1 and EB-2 were drilled on a landscape mound and encountered about 2½ feet of undocumented fill. Fill may also be present within the existing building pad for the motel. We note that other explorations did not encountered any fill below the existing pavement section. To provide uniform support and to reduce the potential for

distress to the proposed homes and pavements, all of the undocumented fill within the proposed buildings and pavements should be removed down to native soil and to a lateral distance of at least 5 feet beyond the building footprints. The extent and depth of the undocumented fill should be evaluated during site grading. The fill may be re-used as engineered fill provided it meets the requirements in the "Material for Fill" section below. All fill should be compacted in accordance with the recommendations for fill presented in the "Compaction" section.

Side slopes of fill excavations should be sloped at inclinations no steeper than 3:1 (horizontal to vertical) to reduce the potential for distress to adjacent sidewalks and pavements.

8.3 Abandoned Utilities

Abandoned utilities located within the proposed building areas should be removed in their entirety. Utilities within the proposed building areas would only be considered for in-place abandonment provided they do not conflict with new improvements, that the ends and all laterals are located and completely grouted, and the previous fills associated with the utility do not pose a risk to the structures.

Utilities outside the building areas should be removed or abandoned in-place by grouting or plugging the ends with concrete. Fills associated with utilities abandoned in-place could pose some risk of settlement; utilities that are plugged could also pose some risk of future collapse or erosion should they leak or become damaged. The potential risks are relatively low for small diameter pipes (4 inches or less) abandoned in-place and increasingly higher with increasing diameter.

8.4 Subgrade Preparation

After the site has been properly cleared, stripped, and necessary excavations have been made, exposed surface soils in those areas to receive fill, slabs-on-grade, foundations, or pavements should be scarified to a depth of 6 inches, moisture conditioned, and compacted in accordance with the recommendations for fill presented in the "Compaction" section. The finished compacted subgrade should be firm and non-yielding under the weight of compaction equipment.

Based on our laboratory test results, the native soils are about 5 to 10 percent over the estimated laboratory optimum moisture content. Earthwork contractor should anticipate that these soils will require drying (aeration) prior to use as engineered fill or subgrade preparation. Consideration should be given to the use of light weight grading equipment and minimizing to concentration of rubber-tired equipment patterns during construction. The use of heavy equipment will tend to de-stabilize clays with high in-situ moisture contents.

8.5 Material for Fill

All on-site soils below the stripped layer having an organic content of less than 3 percent by weight are suitable for use as fill at the site. In general, fill material should not contain rocks or lumps larger than 6 inches in greatest dimension, with 15 percent or less larger than 2½ inches in the greatest dimension.

Imported and non-expansive fill materials should be inorganic and should have a Plasticity Index of 15 or less. Imported fill should have sufficient binder to reduce the potential for sidewall caving of foundation and utility trenches. Samples of proposed import fill should be submitted to us at least ten days prior to delivery to the site to allow for visual review and laboratory testing. This will allow us to evaluate the general conformance of the import fill with our recommendations.

Consideration should also be given to the environmental characteristics and corrosion potential of any imported fill. Suitable documentation should be provided for import material. In addition, it may be appropriate to perform laboratory testing of the environmental characteristics and corrosion potential of imported materials. Import soils should not be more corrosive than the on-site native materials, including pH, soluble sulfates, chlorides, and resistivity.

8.6 Reuse of On-site Recycled Materials

If desired to reuse existing asphalt and/or concrete as engineered fill below sidewalks or pavements, we recommend that it be ground up to meet the gradation requirements of its intended use. If laboratory testing of the recycled material indicates that it meets Caltrans Class 2 specifications, it may be used as aggregate base beneath pavements and sidewalks. We should evaluate the proposed use of recycled materials prior to the work being performed. Recycled fill containing asphalt should not be used within habitable building areas.

8.7 Compaction

All imported fill, as well as scarified surface soils with low plasticity in those areas to receive fill or slabs-on-grade, should be compacted to at least 90 percent relative compaction at a moisture content slightly above laboratory optimum as determined by ASTM Test Designation D1557, latest edition, except for the native expansive clays. The native expansive clays should be compacted to between 87 and 92 percent relative compaction at a moisture content at least 3 percent above laboratory optimum. Fill should be placed in lifts no greater than 8 inches in uncompacted thickness. Each successive lift should be firm and non-yielding under the weight of the compaction equipment.

Since the native soils have relatively high moisture contents, earthwork contractors should anticipate that these soils may require drying (aeration) prior to use as engineered fill or subgrade preparation even during summer months. Based on our laboratory test results, the native soils are about 5 to 10 percent over the estimated laboratory optimum moisture content. Consideration should be given to the use of light weight grading equipment and minimizing to concentration of rubber-tired equipment patterns during construction. The use of heavy equipment will tend to de-stabilize clays with high in-situ moisture contents.

In asphalt pavement and concrete slab areas subjected to vehicular traffic and wheel loads, the upper 6 inches of subgrade and full depth of aggregate base should be compacted to at least 95 percent relative compaction (ASTM D1557, latest edition) except for the native clays, which should be compacted as noted above. Aggregate base should be compacted at a moisture content near the laboratory optimum.

8.8 Trench Backfill

Bedding and pipe embedment materials to be used around underground utility pipes should be well-graded sand or gravel conforming with the pipe manufacturer's recommendations and should be placed and compacted in accordance with the project specifications, local requirements or governing jurisdiction. General fill to be used above pipe embedment materials should be placed and compacted in accordance with local requirements or the recommendations contained in this section, whichever is more stringent.

The surficial soils encountered during this investigation may be used as general fill above pipe embedment materials provided they meet the requirements of the "Material for Fill" section of this report. General fill should be placed in lifts not exceeding 8 inches in uncompacted thickness and should be compacted to at least 90 percent relative compaction (ASTM D1557, latest edition) by mechanical means only; jetting of trench backfill is not recommended. If the native expansive clays are used as trench backfill, the expansive clay compaction requirements stated above should be followed.

Where granular backfill is used in trenches, we recommend that a cut-off plug of low permeability material be placed where such trenches enter the building and pavement areas. This reduces the likelihood of water entering the trenches from the landscaped areas and seeping through the trench backfill into the building and pavement areas and coming into contact with expansive subgrade materials.

If ground water is encountered in deeper utility trench excavations, crushed rock may be used as pipe bedding and initial backfill (if approved by the local jurisdiction and in conformance with the pipe manufacturer's recommendations) in order to provide a stable working platform for utility installation and backfill. The crushed rock should be consolidated in place by vibratory methods until no further volume reduction is observed.

8.9 Temporary Slopes and Trench Excavations

The contractor should be responsible for all temporary slopes and trenches excavated at the site and the design of any required temporary shoring. Shoring, bracing, and benching should be performed by the contractor in accordance with the strictest governing safety standards.

8.10 Wet Weather Conditions

Earthwork contractors should be made aware of the moisture sensitivity of clayey soils and potential compaction difficulties. If construction is undertaken during wet weather conditions, the surficial soils may become saturated, soft and unworkable. Saturated soils may require aerating or blending with drier soils to achieve a workable moisture content. Subgrade stabilization techniques might include the use of engineering fabrics and/or crushed rock or chemical treatment. Therefore, we recommend that consideration be given to construction during summer months, from late April to early October.

As discussed in the "Compaction" section, the in-situ moistures are about 5 to 10 percent above anticipated laboratory optimum. Contractors should be aware that

operation of heavy grading equipment can destabilize wet clays. Consideration should be given to the use of lighter weight equipment and sheepsfoot compactors to prepare the site subgrade.

8.11 Surface Drainage

Positive surface water drainage gradients (2 percent minimum in landscaped areas and 1 percent minimum in paved areas) should be provided adjacent to buildings to direct surface water away from foundations and slabs towards suitable discharge facilities. Ponding of surface water should not be allowed on or adjacent to structures, slabs-on-grade, or pavements. Roof runoff should be directed away from foundations and slabs-on-grade preferably into closed pipes that discharge into the storm drain system. Downspouts may discharge onto splash-blocks provided the area around the splash block is covered with concrete slabs or asphalt concrete pavements that drain to appropriate inlets.

8.12 Storm Water Management

As discussed in the "Site Conditions" section of this report, the native surficial clayey soils have moderate plasticity and are anticipated to have a very low infiltration rate. In addition, ground water at the site was encountered at relatively shallow depths of about 7½ to 10 feet below the ground surface. Historic high ground water is reported on the order of 5 feet (CGS, 2003). The Regional Water Quality Control Board (RWQCB) requires that a minimum of 10 feet be maintained between the seasonal high ground water level and the bottom of any infiltration facility. Since this requirement cannot be met, infiltration facilities would require pre-treatment of pavement runoff water, and potentially roof runoff, prior to entering any infiltration facilities. Due to the low infiltration rate and regulatory restrictions, significant infiltration of storm water may not be feasible as part of a storm water retention/detention program. In addition, as discussed below, due to the moderate plasticity surficial soils, it is recommended to restrict surface water infiltration adjacent to foundations and pavements. Bio-swales in conjunction with site storm drainage may be used adjacent to pavements as long as pavement cut-offs are incorporated in the civil plans.

8.13 Landscaping Considerations

As the near-surface soils are moderately expansive, we recommend greatly restricting the amount of surface water infiltrating these soils near structures and slabs-on-grade. This may be accomplished by:

- Selecting landscaping that requires little or no watering, especially within 3 feet of structures, slabs-on-grade, or pavements,
- Using low precipitation sprinkler heads,
- Regulating the amount of water distributed to lawn or planter areas by installing timers on the sprinkler system,
- Providing surface grades to drain rainfall or landscape watering to appropriate collection systems and away from structures, slabs-on-grade, or pavements,

- Preventing water from draining toward or ponding near building foundations, slabs-on-grade, or pavements, and
- Avoiding open planting areas within 3 feet of the building perimeter.

We recommend that the landscape architect incorporate these items into the landscaping plans, and that we review the plans before construction.

8.14 Construction Observation

A representative from our company should observe and test the geotechnical aspects of the grading and earthwork for general conformance with our recommendations including, site preparation, selection of fill materials, and the placement and compaction of fill. To facilitate your construction schedule we request sufficient notification (48 hours) for site visits. The project plans and specifications should incorporate all recommendations contained in the text of this report.

9.0 FOUNDATIONS

We understand that Classic Communities, Inc. would like to support the proposed residential buildings on post-tensioned mat foundations, which from a geotechnical standpoint is feasible. Detailed recommendations are presented below.

9.1 Post Tensioned Mats

The proposed buildings may be supported on post-tensioned mats provided the subgrade is prepared in accordance with the recommendations presented in the "Subgrade Preparation" and "Compaction" sections of this report. Before mat construction, the subgrade surface should be proof-rolled to provide a smooth, firm surface for support of the mat.

Post-tensioned mats should be designed in accordance with the criteria presented in Table 7 below, using an average allowable bearing pressure of 1,000 pounds per square foot (psf) for dead plus live loads with maximum localized bearing pressures of up to 2,500 psf at column or wall loads. Allowable bearing pressures may be increased by one-third for all loads including wind and/or seismic loading. The structural engineer should determine the mat thickness and reinforcing in accordance with the anticipated use and loading of the mat.

Table 7. Post-Tension Design Criteria

Condition	Center Lift	Edge Lift
Edge Moisture Variation (ft.)	5.0	2.5
Differential Soil Movement (in.)	1.7	0.6

The above design criteria are based on the procedure developed by the Post-Tensioning Institute (1982) and presented in the 2001 CBC using a depth to constant soils suction of 5 feet, and the Plasticity Index data presented on Figure B-1. The soil conditions were modeled using predominantly clay mineral type of Montmorillonite and 40 percent clay, as well as our engineering judgment and experience. We estimate

about ¼-inch to ½-inch of liquefaction-induced differential settlement across building areas is possible following strong seismic shaking as discussed in the "Liquefaction" section. This additional differential settlement should be incorporated into the design of post-tensioned mat foundations.

As discussed below, it is essential that the building pad, which is the mat foundation bearing surface, be kept moist by regular sprinkling with water to prevent desiccation. If building pads are allowed to dry out prior to pouring concrete, the soil will shrink and potentially cause additional differential foundation movement not accounted for in the design once the soil is re-moisturized during the winter rains. If desired to minimize floor wetness in habitable areas, the guidelines presented in the "Moisture Protection Considerations" should be considered.

9.2 Building Pad Moisture Conditioning

Due to the moderate expansion potential of surficial soils, we recommend that finished pads be moisture conditioned to at least 3 percent over optimum in the upper 12 inches of the building pads prior to placing the moisture barrier system. If the expansive soils are allowed to dry out significantly, causing shrinking and cracking, re-moisturizing of the building pads may take several days of soaking or remixing and recompacting the upper 12 inches of the pads. The moisture content of the finished pads should be checked within 24 hours prior to the construction of the moisture barrier.

9.3 Lateral Loads

Lateral loads may be resisted by friction between the bottom of post-tensioned mats and the supporting subgrade. A maximum allowable frictional resistance of 0.25 may be used for design. In addition, lateral resistance will be provided by passive soil pressure acting against the sides of mats cast neat against competent soil. We recommend that an allowable passive pressure based on an equivalent fluid pressure of 300 pounds per cubic foot (pcf) be used in design. The upper 12 inches of soil should be neglected when determining lateral passive resistance.

9.4 Moisture Protection Considerations

Since the long-term performance of concrete mat foundations depends on good design, workmanship, and materials, the following general guidelines are presented for consideration by the owner, design team, and contractor. We note that some of these guidelines may differ from local practices, and emphasize that they should be considered as the owner's option. The purpose of these guidelines is to aid in producing a concrete mat of sufficient quality to allow successful installation of floor coverings and reduce the potential for floor covering failures due to moisture-related problems.

These guidelines may be supplemented, as necessary, based on the specific project requirements. Please note that these guidelines are intended to work together to provide control of long-term moisture emissions. We should be consulted if some but not all of the guidelines are incorporated into design and construction. These guidelines are best suited for conventional concrete design; if high fly ash content concrete will be used, these guidelines may need to be modified.

- We recommend a minimum 10-mil-thick vapor barrier conforming to ASTM E1745, Class C, be placed directly below the mat foundation. A higher quality vapor barrier (Class A or B) may be used at the owner's option. The vapor barrier should extend to within 12 to 18 inches of the edge of the mat and should be sealed at all seams and penetrations.

- The concrete water/cement ratio should not exceed 0.45. Midrange plasticizers could be used to facilitate concrete placement and workability.

- Water should not be added after initial batching, unless the slump of the concrete is less than specified, and the resulting water/cement ratio will not exceed 0.45.

- Polishing the concrete surface with metal trowels should not be permitted.

- All concrete surfaces to receive any type of floor covering should be moist cured for a minimum of 7 days. Moist curing methods may include frequent sprinkling, or using coverings such as burlap, cotton mats, or carpet. The covering should be placed as soon as the concrete surface is firm enough to resist surface damage. The covering should be kept continuously wet and not allowed to dry out during the required curing period.

- Water vapor emission levels and pH should be determined as required by the manufacturers of the floor covering materials before floor installation. Measurements and calculations should be made according to ASTM F1869-98 and F710-98 protocol.

The guidelines presented above are based on information obtained from various technical sources, including the American Concrete Institute (ACI) and Portland Cement Association (PCA), and are intended to present information that can be used to reduce potential long-term impacts from slab moisture infiltration.

10.0 RETAINING WALLS

10.1 Lateral Earth Pressures

Any proposed retaining walls should be designed to resist lateral earth pressures from adjoining natural materials, backfill, and surcharge loads. Provided that adequate drainage is provided as recommended below, we recommend that walls restrained from movement at the top be designed to resist an equivalent fluid pressure of 45 pounds per cubic foot (pcf) plus a uniform pressure of 8H pounds per square foot, where H is the distance in feet between the bottom of the footing and the top of the wall. Restrained walls should also be designed to resist an additional uniform pressure equivalent to one-half of any surcharge loads applied at the surface. Any unrestrained retaining walls with adequate drainage should be designed to resist an equivalent fluid pressure of 45 pcf plus one-third of any surcharge loads.

The above lateral earth pressures assume level backfill conditions and sufficient drainage behind the walls to prevent build-up of hydrostatic pressure from surface water infiltration and/or a rise in the ground water level. If adequate drainage is not provided, we recommend an equivalent fluid pressure of 40 pcf be added to the values recommended above for both restrained and unrestrained walls. Damp-proofing of the

walls should be included in areas where wall moisture and efflorescence would be undesirable.

10.2 Drainage

Adequate drainage may be provided by a subdrain system behind the walls. This system should consist of a 4-inch minimum diameter perforated pipe placed near the base of the wall (perforations placed downward). The pipe should be bedded and backfilled with Class 2 Permeable Material per Caltrans Standard Specifications, latest edition. The permeable backfill should extend at least 2 feet out from the wall and to within 2 feet of outside finished grade. Alternatively, ½-inch to ¾-inch crushed rock may be used in place of the Class 2 Permeable Material provided the crushed rock and pipe are enclosed in filter fabric, such as Mirafi 140N or equivalent. The upper 2 feet of wall backfill should consist of relatively low permeable compacted on-site clayey soil. The subdrain outlet should be connected to a free-draining outlet or sump.

Miradrain, Geotech Drainage Panels, or Enkadrain drainage matting may be used for wall drainage as an alternative to the Class 2 Permeable Material or drain rock backfill. The drainage panel should be connected to the perforated pipe at the base of the wall, or to some other closed or through-wall system. Miradrain panels should terminate 18 to 24 inches from final exterior grade. The Miradrain panel filter fabric should be extended over the top of and behind the panel to protect it from intrusion of the adjacent soil.

10.3 Backfill

Backfill placed behind the walls should be compacted to at least 90 percent relative compaction using light compaction equipment. If heavy compaction equipment is used, the walls should be temporarily braced.

10.4 Foundation

Retaining walls may be supported on a continuous spread footing designed for maximum allowable bearing pressures of 2,000 pounds per square foot (psf) for dead loads, 3,000 psf for combined dead and live loads, and 4,000 psf for all loads including wind or seismic. These allowable bearing pressures are based upon factors of safety of 3.0, 2.0, and 1.5 for dead, dead plus live, and seismic loads, respectively. Lateral load resistance for the walls may be developed in accordance with the recommendations presented in the "Lateral Loads" section.

All footings should have a minimum width of 12 inches and the bottoms of the footings should extend at least 18 inches below the lowest adjacent finished grade. Lowest adjacent finished grade may be taken as the bottom of interior slabs-on-grade or the finished exterior grade, excluding landscape topsoil, whichever is lower. Because the surficial soils are moderately expansive, these relatively deeper footings are recommended to place bearing surfaces below the zone of significant moisture fluctuation to reduce the effects of heave and shrinkage.

These maximum allowable bearing pressures are net values; the weight of the footing may be neglected for design purposes. All footings located adjacent to utility trenches should have their bearing surfaces below an imaginary 1:1 (horizontal:vertical) plane projected upward from the bottom edge of the trench to the footing.

All continuous footings should be reinforced with top and bottom steel to provide structural continuity and to permit spanning of local irregularities. Footing excavations should be kept moist by regular sprinkling with water to prevent desiccation. It is essential that we observe the footing excavations before the reinforcing steel is placed.

Due to the relatively light loading of the anticipated site retaining walls, we estimate that total static settlement will be less than approximately ½-inch.

11.0 PAVEMENTS

11.1 Asphalt Concrete

We obtained a representative bulk sample of the surface soil at the site and performed an R-value test to provide data for pavement design. The results of the test are included in Appendix B and indicated an R-value less than 5. Because the surface soils varied across the site, we judged an R-value of 5 to be appropriate for pavement design. Using estimated traffic indices for various pavement-loading requirements, we developed the following recommended pavement sections based on Procedure 608 of the Caltrans Highway Design Manual, presented in Table 8.

Table 8. Recommended Asphalt Concrete Pavement Design Alternatives
Pavement Components
Design R-Value = 5

General Traffic Condition	Design Traffic Index	Asphalt Concrete (Inches)	Aggregate Baserock* (Inches)	Total Thickness (Inches)
Automobile Parking	4.0	2.5	8.0	10.5
	4.5	2.5	10.0	12.5
Automobile Parking Channel	5.0	3.0	10.0	13.0
	5.5	3.0	12.0	15.0
Truck Access & Parking Areas	6.0	3.5	13.0	16.5
	6.5	4.0	14.0	18.0

*Caltrans Class 2 aggregate base; minimum R-value equal to 78.

The traffic indices used in our pavement design are considered reasonable values for the proposed development and should provide a pavement life of approximately 20 years with a normal amount of flexible pavement maintenance. The traffic parameters used for design were selected based on engineering judgment and not on information furnished to us such as an equivalent wheel load analysis or a traffic study.

11.2 Portland Cement Concrete Pavements

Recommendations for exterior Portland cement concrete (PCC) pavements are presented below in Table 9. Since the expected Average Daily Truck Traffic (ADTT) is not known at this time, we have provided alternatives for minimum pavement thickness. An allowable ADTT should be chosen that is greater than expected for the development.

Table 9. Recommended Minimum PCC Pavement Thickness

Allowable ADTT	Minimum PCC Pavement Thickness (inches)
0.8	5
13	5½
130	6

Pavement thickness is based on an R-value of 5 and a 28-day unconfined compressive strength for concrete of at least 3,500 pounds per square inch. In addition, our design assumes that pavements are restrained laterally by a concrete shoulder or curb and that all PCC pavements are underlain by at least 6 inches of Class 2 aggregate base. We recommend that adequate construction expansion and control joints be used in design of PCC pavements to control the cracking inherent in this construction.

11.3 Permeable Pavers

Permeable pavers should be supported on a layer of bedding material in accordance with manufacturer's specifications overlying at least 12 inches of ½- to ¾-inch clean crushed rock. The crushed rock should be consolidated in place with vibratory equipment. Depending on the gradation of the aggregate joint filler compared to the crushed rock, a layer of filter fabric Mirafi 140N or equivalent may be needed to prevent migration of the aggregate joint filler and bedding into the supporting crushed rock section. The subgrade soil should be scarified to a depth of at least 6 inches, moisture-condition, and compacted to at least 95 percent relative compaction. If the subgrade consists of native expansive clays, it should be compacted to between 87 to 92 percent at a moisture content at least 3 percent over laboratory optimum as determined by ASTM Test Designation D1557, latest edition. A layer of filter fabric should be placed between the subgrade and the crushed rock section to prevent soil migration into the structural section. The permeable pavers should be restrained laterally with concrete curbs extending into the subgrade at least 3 inches.

To improve pavement stability during rainy months and reduce long-term maintenance, a layer of biaxial geogrid (Tensar BX-1100 or equivalent) may be placed within the crushed rock section, 4 inches above subgrade, if desired. In addition, an overflow drainage system should be provided to prevent the structural section from being completely full of water, which could cause movement of the pavers when loaded. A 4-inch-diameter perforated pipe should be placed within the section such that the pipe invert is at least 8 inches below finished paver grade. The drain pipe should be connected to the storm water collection system. The drainage system allows for a period of water storage and potential water percolation into the subgrade, while protecting the structural section.

11.4 Pavement Cutoff

Because the native soils at the site are moderately expansive, surface water infiltration beneath pavements, including the concrete paver section, could significantly reduce the pavement design life. While the amount of reduction in pavement life is difficult to quantify, in our opinion, the normal design life of 20 years may be reduced to less

than 10 years. Therefore, long-term maintenance greater than normal may be required.

To limit the need for additional long-term maintenance, it would be beneficial to protect at-grade pavements from landscape water infiltration by means of a concrete cut-off wall, deepened curbs, deepened containment curbs for the pavers, redwood header, "Deep-Root Moisture Barrier," or equivalent. However, if reduced pavement life and greater than normal pavement maintenance are acceptable, the cutoff barrier may be eliminated. If desired to install pavement cutoff barriers, they should be considered where pavement areas lie downslope of any landscape areas that are to be sprinklered or irrigated, and should extend to a depth of at least 4 inches below the aggregate base layer. Due to the moderate expansive clay at the site, minor cracking and displacement along the edge of the pavement and the concrete curb and gutter should be anticipated.

11.5 Exterior Flatwork

Due to the moderate expansion potential of the surface soils, we recommend that private exterior concrete flatwork and sidewalks be at least 4 inches thick and supported on at least 6 inches of non-expansive fill (NEF). The NEF may consist of an import soil with a PI less than 15, or a select material such as sand, quarry fines, or Class 2 aggregate base. The upper 4 inches of the NEF should consist of Class 2 aggregate base. Recycled granular materials may be reused as discussed in the "Reuse of On-site Recycled Materials" section.

The sidewalks in the public right-of-way should be constructed in accordance with the City of Mountain View requirements. The subgrade and aggregate base should be prepared and compacted in accordance with the recommendations presented in the "Earthwork" section. If concrete flatwork is subject to wheel loads, the recommendations presented in the "Portland Cement Concrete Pavements" section above should be used.

11.6 Asphalt Concrete, Aggregate Base and Subgrade

Asphalt concrete and aggregate base should conform to and be placed in accordance with the requirements of Caltrans Standard Specifications, latest edition, except that ASTM Test Designation D1557 should be used to determine the relative compaction of the aggregate base. Pavement subgrade should be prepared and compacted as described in the "Earthwork" section of this report.

12.0 LIMITATIONS

This report has been prepared for the sole use of Classics Communities, Inc., specifically for design and construction of the residential development to be located at 180 Evandale Avenue and 185 Fairchild Drive in Mountain View, California. The opinions presented in this report have been formulated in accordance with generally accepted geotechnical engineering practices that exist in the San Francisco Bay Area at the time this report was written. No other warranty, expressed or implied, is made or should be inferred. We are not responsible for the data presented by others.

The opinions, conclusions and recommendations contained in this report are based upon the information obtained from explorations at widely separated locations, site

reconnaissance, review of data made available to us, and upon local experience and engineering judgment. The recommendations presented in this report are based on the assumptions that the soil and geologic conditions at or between borings and CPTs do not deviate substantially from those encountered or extrapolated from the explorations performed. In addition, geotechnical issues may arise that are not apparent at this time.

The geotechnical engineer should be retained to review the final specifications and drawings when they are available, to verify these documents are consistent with the intent of the geotechnical recommendations. The recommendations provided in this report are based on the assumption that we will be retained to provide observation and testing services during the construction phase of the project in order to evaluate compliance with our recommendations. If we are not retained for these services, Lowney Associates cannot assume any responsibility for any potential claims that may arise during or after construction as a result of misuse or misinterpretation of Lowney Associates' report by others. Furthermore, Lowney Associates will cease to be the Geotechnical-Engineer-of-Record at the time another consultant is retained for follow-up service to this report.

The opinions presented in this report are valid as of the present date for the property evaluated. Changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable standards of practice can occur, whether they result from legislation or the broadening of knowledge. Accordingly, the opinions presented in this report may be invalidated, wholly or partially, by changes outside of our control. Therefore, this report is subject to review and should not be relied upon after a period of three years, nor should it be used, or is it applicable, for any properties other than that evaluated.

13.0 REFERENCES

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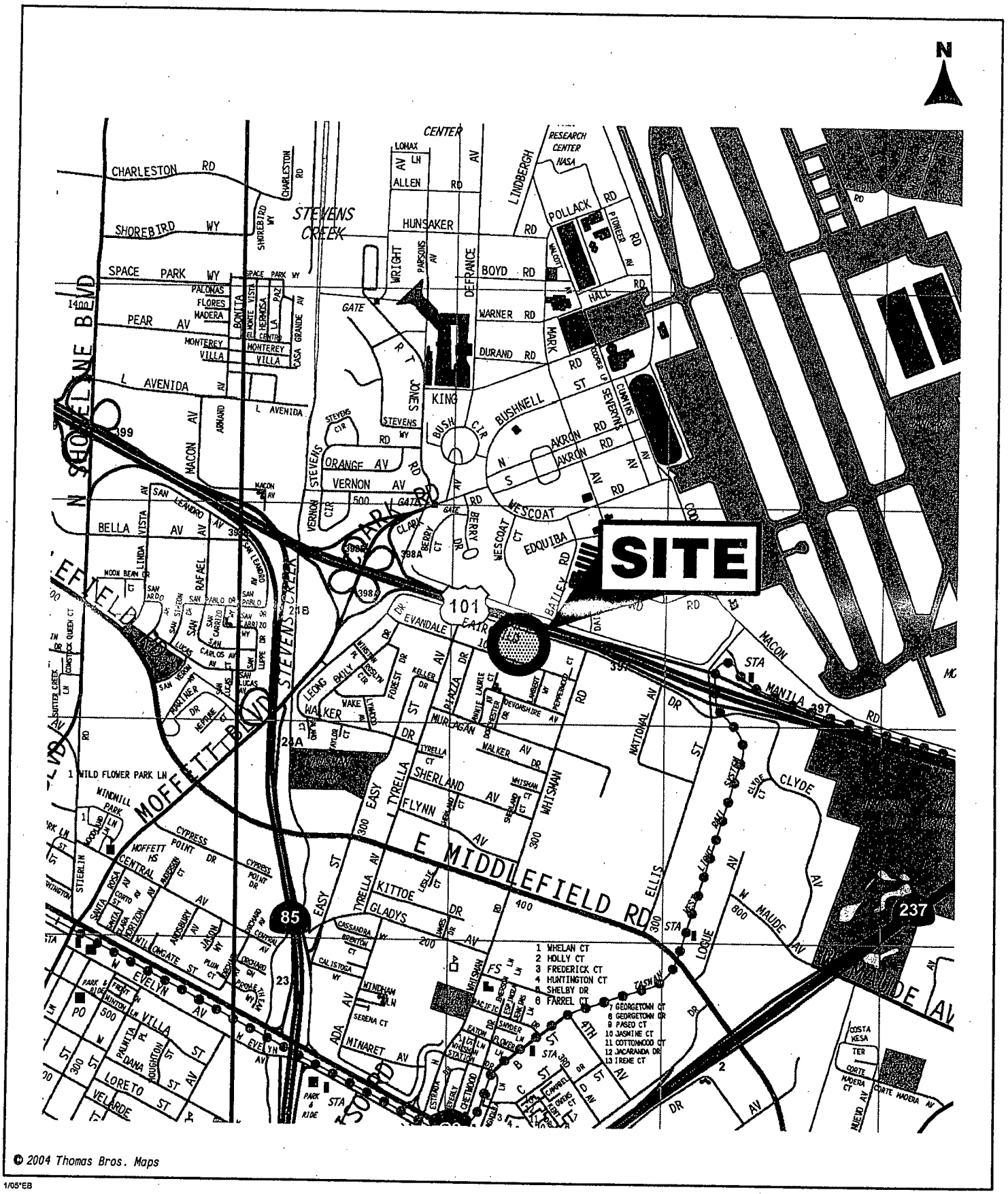


1/05*EB

VICINITY MAP

CLASSICS AT EVANDALE

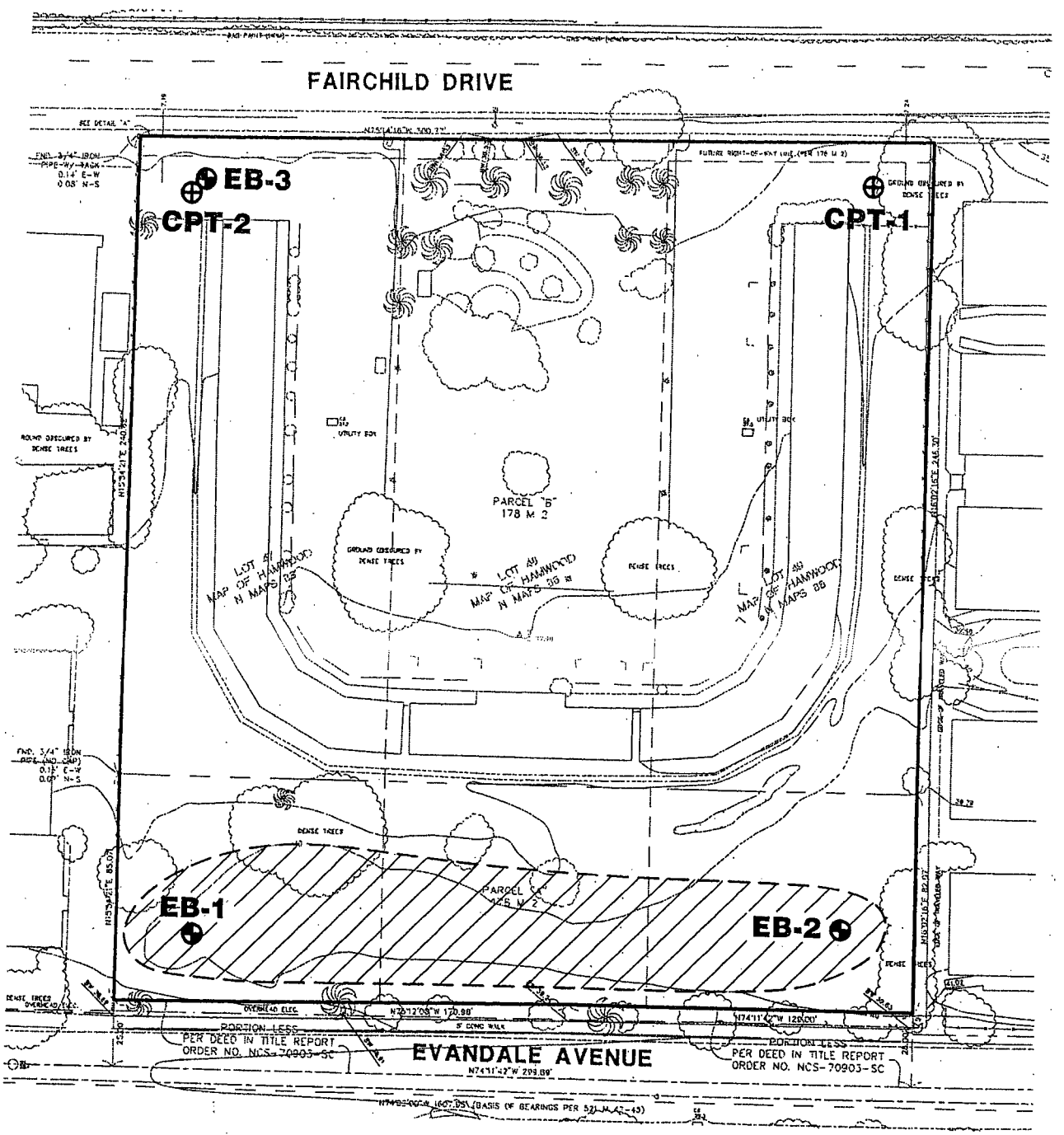
Mountain View, California

LOWNEY ASSOCIATES

Environmental/Geotechnical/Engineering Services

FIGURE 1

899-60



LEGEND

- ⊕ - Approximate location of exploratory boring
- ⊕ - Approximate location of cone penetration test
- ⌀ - Approximate location of landscape mound

0 60 ft.

Scale: 1" = 60'

Base by BKF, dated 12/13/04.

1/05 EB

SITE PLAN

CLASSICS AT EVANDALE
Mountain View, California

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FIGURE 2
899-60

APPENDIX A

FIELD INVESTIGATION

Our field investigation consisted of a surface reconnaissance and a subsurface exploration program using conventional hollow-stem auger drilling and CPT equipment. Three 8-inch-diameter exploratory borings were drilled on January 3, 2005 to depths ranging from 34 to 45 feet. In addition, two CPTs were hydraulically advanced on December 27, 2004 and January 4, 2005 to a maximum depth of 50 feet. CPT data was obtained at 0.16 feet intervals, and consisted of cone tip resistance, local friction, pore pressure and other parameters. The data obtained was correlated using the references cited, to determine the indicated soil type, shear strength, equivalent Standard Penetration Test (SPT), N-value (blows per foot), and other parameters. The approximate locations of the borings and CPTs are shown on the Site Plan, Figure 2. The soils encountered were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D2488). Our boring and CPT logs, as well as a key to the classification of the soil, are included as part of this appendix.

The locations of the borings and CPTs were determined by pacing from existing site boundaries and structures. Elevations of the borings were determined by interpolation from plan contours provided by BKF Engineers. The locations and elevations of the borings and CPTs should be considered accurate only to the degree implied by the method used.

Representative soil samples were obtained from the borings at selected depths. All samples were returned to our laboratory for evaluation and appropriate testing. Penetration resistance blow counts were obtained by dropping a 140-pound hammer 30 inches. Modified California 2.5-inch I.D. samples and Standard Penetration Test (SPT) 2-inch O.D. samples were obtained by driving the samplers 18 inches and recording the number of hammer blows for each 6 inches of penetration. Unless otherwise indicated, the blows per foot recorded on the boring logs represent the accumulated number of blows required to drive the samplers the last two 6-inch increments. When using the SPT sampler, the last two 6-inch increments is the uncorrected SPT measured blow count. The various samplers are denoted at the appropriate depths on the boring logs and symbolized as shown on Figure A-1.

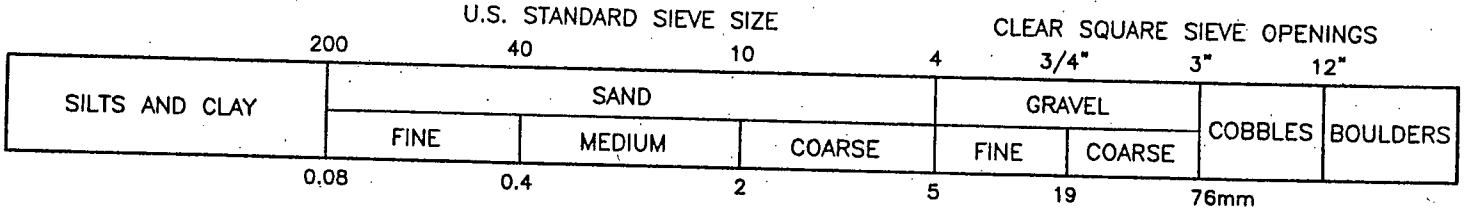
Field tests included an evaluation of the unconfined compressive strength of the soil samples using a pocket penetrometer device. The results of this test are presented on the individual boring logs at the appropriate sample depths.

The attached boring and CPT logs and related information depict subsurface conditions only at the locations indicated and at the particular date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these CPT locations. The passage of time may result in altered subsurface conditions due to environmental changes.

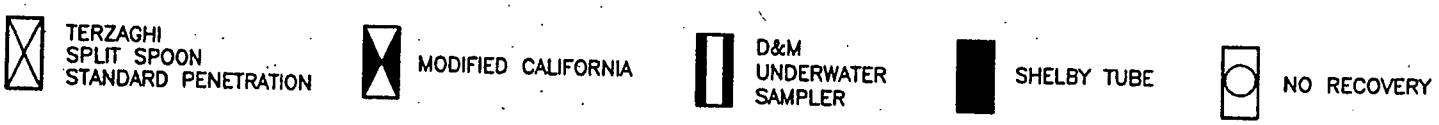
* * * * * * * * * * * * *

PRIMARY DIVISIONS			SOIL TYPE		SECONDARY DIVISIONS
COARSE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVELS (MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE)	CLEAN GRAVELS (Less than 5% Fines)	GW		Well graded gravels, gravel–sand mixtures, little or no fines
			GP		Poorly graded gravels or gravel–sand mixtures, little or no fines
		GRAVEL WITH FINES	GM		Silty gravels, gravel–sand–silt mixtures, plastic fines
			GC		Clayey gravels, gravel–sand–clay mixtures, plastic fines
	SANDS (MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE)	CLEAN SANDS (Less than 5% Fines)	SW		Well graded sands, gravelly sands, little or no fines
			SP		Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM		Silty sands, sand–silt–mixtures, non–plastic fines
			SC		Clayey sands, sand–clay mixtures, plastic fines
FINE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS (LIQUID LIMIT IS LESS THAN 50 %)		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (LIQUID LIMIT IS GREATER THAN 50 %)		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH		Inorganic clays of high plasticity, fat clays
			OH		Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			PT		Peat and other highly organic soils

DEFINITION OF TERMS



GRAIN SIZES



SAMPLERS

SAND AND GRAVEL	BLOWS/FOOT*
VERY LOOSE	0–4
LOOSE	4–10
MEDIUM DENSE	10–30
DENSE	30–50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH+	BLOWS/FOOT*
VERY SOFT	0–1/4	0–2
SOFT	1/4–1/2	2–4
MEDIUM STIFF	1/2–1	4–8
STIFF	1–2	8–16
VERY STIFF	2–4	16–32
HARD	OVER 4	OVER 32

CONSISTENCY

*Number of blows of 140 pound hammer falling 30 inches to drive a 2–inch O.D. (1–3/8 inch I.D.) split spoon (ASTM D–1586).
+Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D–1586), pocket penetrometer, torvane, or visual observation.

KEY TO EXPLORATORY BORING LOGS

Unified Soil Classification System (ASTM D–2487)

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FIGURE A–1

EXPLORATORY BORING: EB-1

DRILL RIG: MOBILE B-53
BORING TYPE: 8 INCH HOLLOW-STEM AUGER
LOGGED BY: BMM
START DATE: 1-3-05 FINISH DATE: 1-3-05

PROJECT NO: 899-60
PROJECT: CLASSICS AT EVANDALE AVENUE
LOCATION: MOUNTAIN VIEW, CA
COMPLETION DEPTH: 45.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE
		SURFACE ELEVATION: 40 FT. (+/-)						
40.0	0	**SILT (ML) [FILL]** medium stiff to stiff, moist, dark brown to brown, trace organics, low to moderate plasticity, some fine sand Plasticity Index = 11, Liquid Limit = 48	ML, FILL	21		38	71	
37.5		**LEAN CLAY (CL)** very stiff, moist, brown, some fine sand, moderate plasticity		17		17	100	
	5			29		26	94	
	10	medium stiff, wet, gray with brown mottles	CL	9		29	89	
25.3	15	**SANDY LEAN CLAY (CL)** medium stiff, wet, gray with brown mottles, fine to medium sand, low plasticity		12		22	111	
	20		CL	8		21		50
	25			33				
13.0		**LEAN CLAY (CL)** medium stiff, wet, gray, some fine sand, moderate plasticity	CL	8				
10.0	30	*Continued Next Page*						

Undrained Shear Strength (ksf)
○ Pocket Penetrometer
△ Torvane
● Unconfined Compression
▲ U-U Triaxial Compression
1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:
▽: FREE GROUND WATER MEASURED DURING DRILLING AT 9.6 FEET

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EXPLORATORY BORING: EB-1 Cont'd

DRILL RIG: MOBILE B-53
BORING TYPE: 8 INCH HOLLOW-STEM AUGER
LOGGED BY: BMM
START DATE: 1-3-05 FINISH DATE: 1-3-05

PROJECT NO: 899-60
PROJECT: CLASSICS AT EVANDALE AVENUE
LOCATION: MOUNTAIN VIEW, CA
COMPLETION DEPTH: 45.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER
10.0	30	**LEAN CLAY (CL)** medium stiff, wet, gray, some fine sand, moderate plasticity	CL		
8.0		**LEAN CLAY WITH SAND (CL)** stiff, wet, gray with brown mottles, fine to medium sand, low to moderate plasticity	CL	27	
	35				
	40	becomes gray medium stiff		12	
				15	
-2.5		**SANDY LEAN CLAY (CL)** stiff, wet, gray, fine to coarse sand, some fine gravel, low to moderate plasticity	CL		
-5.0	45			33	
		Bottom of Boring at 45 feet			
	50				
	55				
	60				

MOISTURE CONTENT (%) | DRY DENSITY (PCF) | PERCENT PASSING NO. 200 SIEVE

Undrained Shear Strength (ksf)
○ Pocket Penetrometer
△ Torvane
● Unconfined Compression
▲ U-U Triaxial Compression
1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:
▽: FREE GROUND WATER MEASURED DURING DRILLING AT 9.6 FEET

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EXPLORATORY BORING: EB-2

DRILL RIG: MOBILE B-53
BORING TYPE: 8 INCH HOLLOW-STEM AUGER
LOGGED BY: BMM
START DATE: 1-3-05 FINISH DATE: 1-3-05

PROJECT NO: 899-60
PROJECT: CLASSICS AT EVANDALE AVENUE
LOCATION: MOUNTAIN VIEW, CA
COMPLETION DEPTH: 35.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE
41.0	0	SURFACE ELEVATION: 41 FT. (+/-)						
		SILT (ML) [FILL] medium stiff to stiff, moist, dark brown to brown, trace organics, low to moderate plasticity, some fine sand	ML, FILL	16		22	89	
38.5		**LEAN CLAY (CL)** very stiff, moist, dark brown, some fine to medium sand, trace organics, moderate plasticity		17		18	101	
	5	hard		30		24	93	
	10		CL	11		27	90	
	15	medium stiff to stiff, wet, gray		15		25	99	
21.3	20	**SANDY LEAN CLAY (CL)** medium stiff, wet, brown, fine sand, some medium sand, low plasticity		10		23	104	53
	25		CL	21				
14.0		**POORLY GRADED SAND WITH CLAY (SP-SC)** medium dense, wet, gray to bluish gray, fine to coarse sand	SP-SC					
11.0	30			27				

Continued Next Page

Undrained Shear Strength (ksf)
○ Pocket Penetrometer
△ Torvane
● Unconfined Compression
▲ U-U Triaxial Compression
1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:
▽: FREE GROUND WATER MEASURED DURING DRILLING AT 9.5 FEET

LA CORP.GDT 1/11/05 MV* FLL

EXPLORATORY BORING: EB-2 Cont'd

DRILL RIG: MOBILE B-53
BORING TYPE: 8 INCH HOLLOW-STEM AUGER
LOGGED BY: BMM
START DATE: 1-3-05 FINISH DATE: 1-3-05

PROJECT NO: 899-60
PROJECT: CLASSICS AT EVANDALE AVENUE
LOCATION: MOUNTAIN VIEW, CA
COMPLETION DEPTH: 35.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE
11.0	30	**POORLY GRADED SAND WITH CLAY (SP-SC)** medium dense, wet, gray to bluish gray, fine to coarse sand	SP-SC	18		21		7
7.5								
6.0	35	**SANDY LEAN CLAY (CL)** medium stiff, wet, light brown, some fine to coarse sand, low plasticity	CL	16				
		Bottom of Boring at 35 feet						
	40							
	45							
	50							
	55							
	60							

Undrained Shear Strength (ksf)
○ Pocket Penetrometer
△ Torvane
● Unconfined Compression
▲ U-U Triaxial Compression
1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:
▽: FREE GROUND WATER MEASURED DURING DRILLING AT 9.5 FEET

LA CORP.GDT 1/11/05 MV* FLL

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EXPLORATORY BORING: EB-3

DRILL RIG: MOBILE B-53
BORING TYPE: 8 INCH HOLLOW-STEM AUGER
LOGGED BY: BMM
START DATE: 1-3-05 FINISH DATE: 1-3-05

PROJECT NO: 899-60
PROJECT: CLASSICS AT EVANDALE AVENUE
LOCATION: MOUNTAIN VIEW, CA
COMPLETION DEPTH: 34.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE
		SURFACE ELEVATION: 37 FT. (+/-)						
37.0	0	2 inches asphalt concrete over 4 inches aggregate base						
36.5		**LEAN CLAY (CL)** very stiff, moist, dark brown, some fine sand, moderate plasticity Plasticity Index = 25, Liquid Limit = 46	CL	17		23	89	
	5	brown with some reddish brown mottles		27		29	93	
		medium stiff, grayish brown		7		35	87	
	10	medium stiff, wet, grayish brown		11		33	87	
25.0		**SANDY LEAN CLAY (CL)** medium stiff, wet, grayish brown, fine to medium sand, some fine gravel, low plasticity	CL	12		26	98	
	15			30				
16.8	20	**POORLY GRADED SAND WITH CLAY (SP-SC)** medium dense, wet, brown, fine sand, some medium sand	SP-SC	23		25		11
13.0		**LEAN CLAY (CL)** medium stiff, wet, gray, some fine sand, low to moderate plasticity	CL	11				
7.0	30							

Continued Next Page

Undrained Shear Strength (ksf)
○ Pocket Penetrometer
△ Torvane
● Unconfined Compression
▲ U-U Triaxial Compression
1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:
▽: FREE GROUND WATER MEASURED DURING DRILLING AT 10.0 FEET

LA CORP.GDT 1/11/05 MV* FLL

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

EXPLORATORY BORING: EB-3 Cont'd

DRILL RIG: MOBILE B-53
BORING TYPE: 8 INCH HOLLOW-STEM AUGER
LOGGED BY: BMM
START DATE: 1-3-05 FINISH DATE: 1-3-05

PROJECT NO: 899-60
PROJECT: CLASSICS AT EVANDALE AVENUE
LOCATION: MOUNTAIN VIEW, CA
COMPLETION DEPTH: 34.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

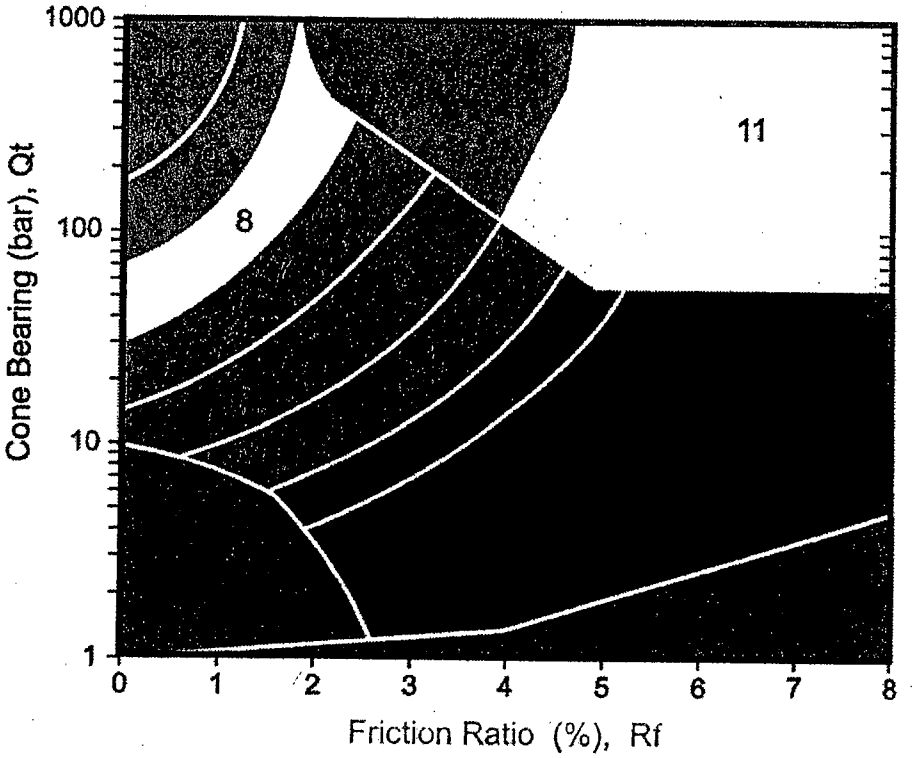
ELEVATION (FT)	DEPTH (FT)	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE
7.0	30	**LEAN CLAY (CL)** medium stiff, wet, gray, some fine sand, low to moderate plasticity	CL					
4.0		**POORLY GRADED SAND WITH CLAY (SP-SC)** dense, wet, brown, fine to coarse sand	SP-SC	34		17		11
3.0	35	Bottom of Boring at 34 feet						
	40							
	45							
	50							
	55							
	60							

Undrained Shear Strength (ksf)
○ Pocket Penetrometer
△ Torvane
● Unconfined Compression
▲ U-U Triaxial Compression
1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:
▽: FREE GROUND WATER MEASURED DURING DRILLING AT 10.0 FEET

LA CORP.GDT 1/11/05 MV* FLL

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

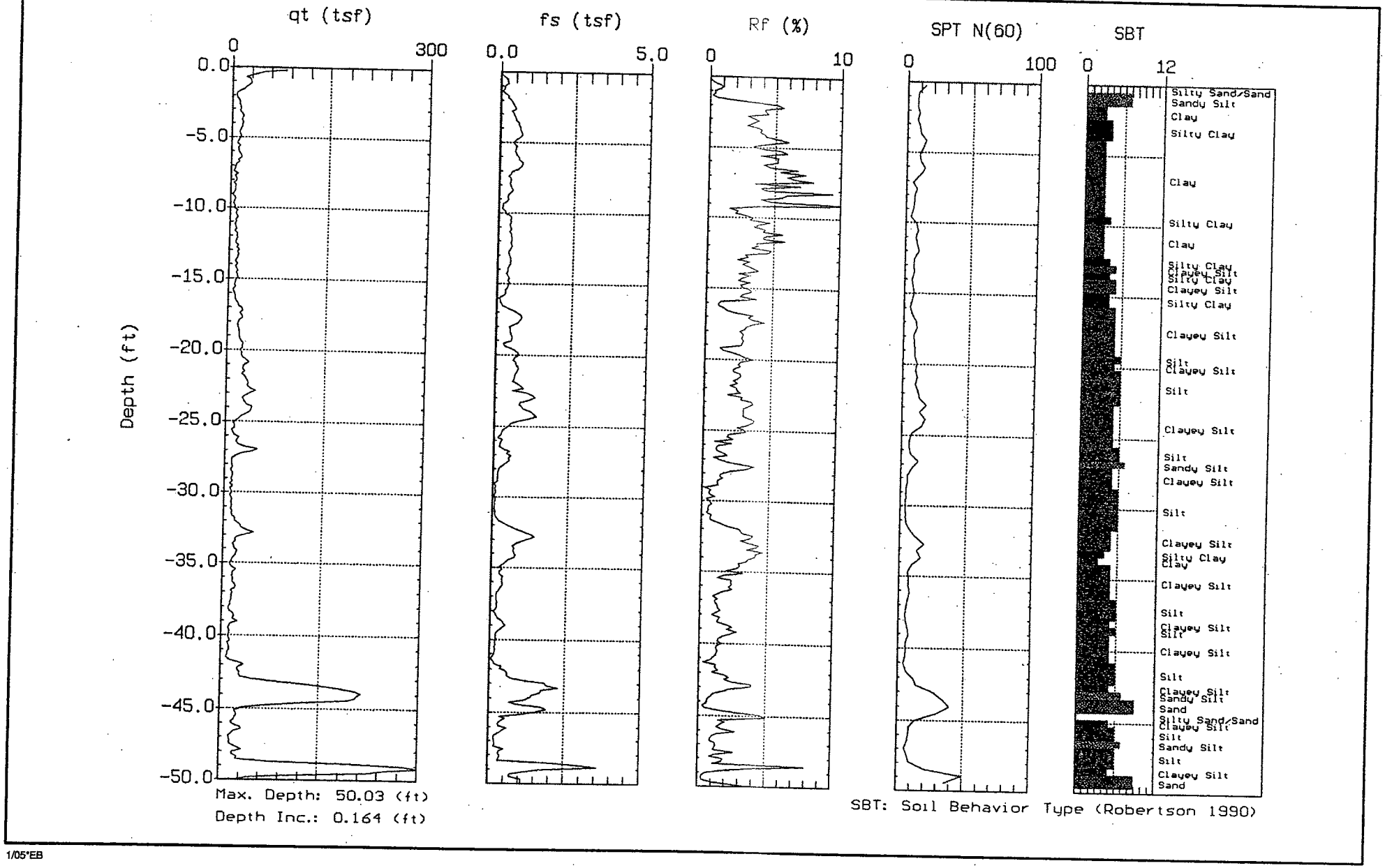


Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

Robertson (1990)

KEY TO CONE PENETROMETER TEST



1/05*EB

CONE PENETRATION TEST - CPT-1

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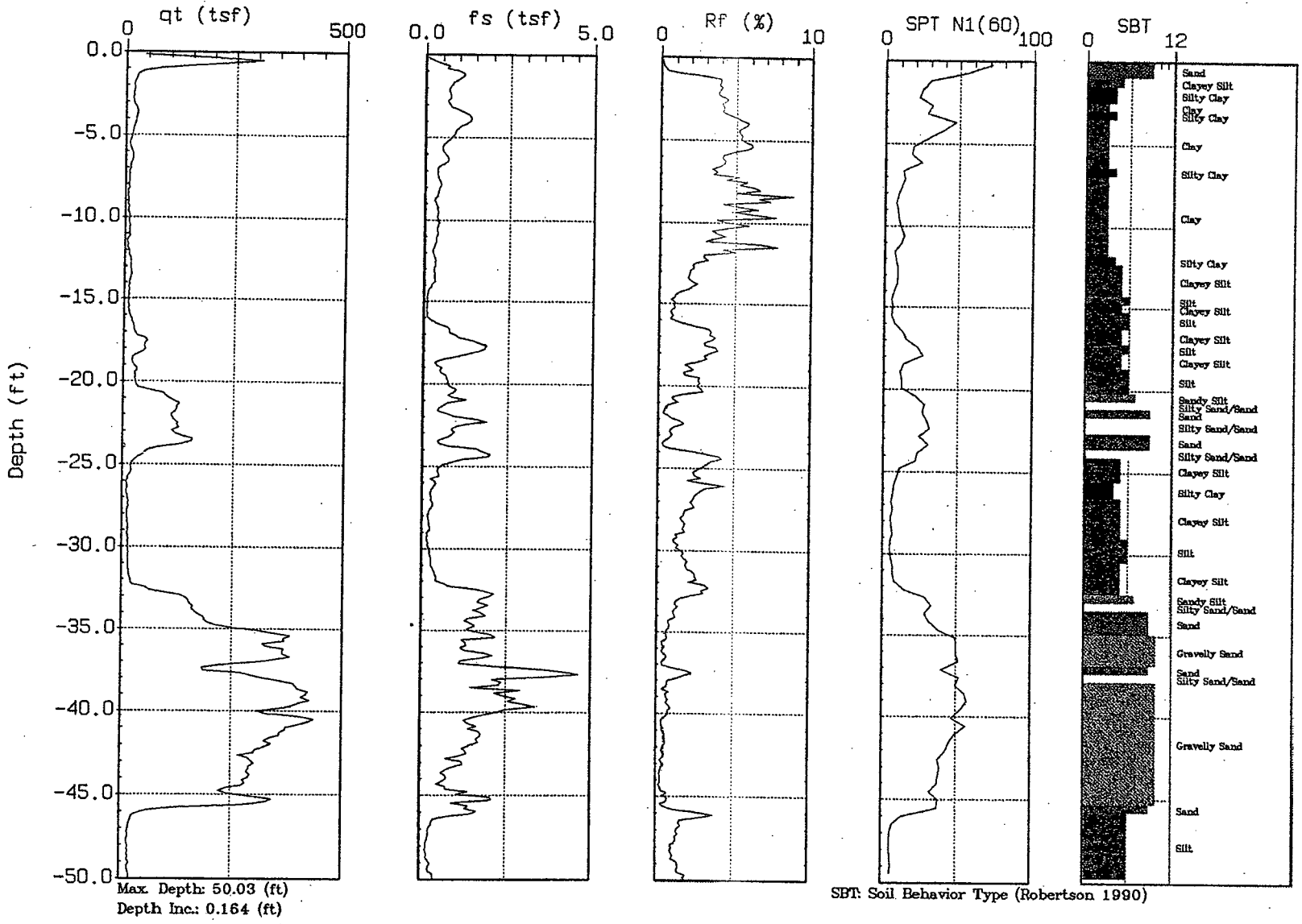
CPT-1
899-60



Max. Depth: 50.03 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

1/05*EB

CONE PENETRATION TEST - CPT-2

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

CPT-2
899-60

APPENDIX B

LABORATORY PROGRAM

The laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site and to aid in verifying soil classification.

Moisture Content: The natural water content was determined (ASTM D2216) on 20 soil samples recovered from the borings. These water contents are recorded on the boring logs at the appropriate sample depths.

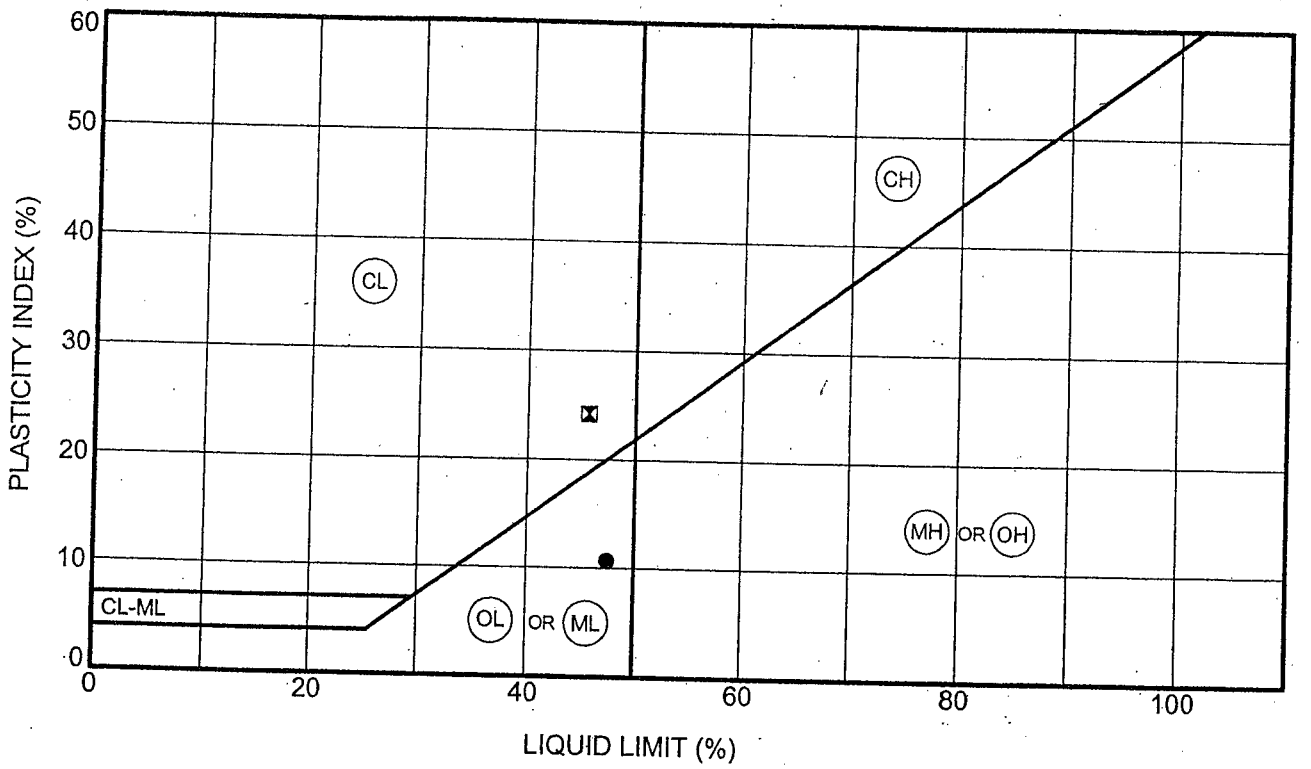
Dry Densities: In place dry density determinations (ASTM D2937) were performed on 16 soil samples to measure the unit weight. Results of these tests are shown on the boring logs at the appropriate sample depths.

Plasticity Index: Plasticity Index tests (ASTM D4318) were performed on two soil samples to measure the range of water contents over which these materials exhibit plasticity. The Plasticity Index was used to classify the soil in accordance with the Unified Soil Classification System and to evaluate the soil expansion potential. Results of these tests are presented on Figure B-1 of this appendix.

Washed Sieve Analyses: The percent soil fraction passing the No. 200 sieve (ASTM D1140) was determined on five samples to aid in the classification of these soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

R-Value: An R-value resistance test (California Test Method No. 301) was performed on a representative sample of the surface soils at the proposed parking area to provide data for the pavement design. The test indicated an R-value of less than 5 at an exudation pressure greater than 300 pounds per square inch. The results of the test are presented on Figure B-2 of this appendix.

* * * * * * * * * * * *



Symbol	Boring No.	Depth (ft.)	Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing No. 200 Sieve	Unified Soil Classification Description
●	EB-1	2.0	38	48	37	11		SILT (ML) [FILL]
⊠	EB-3	2.0	23	46	21	25		LEAN CLAY (CL)

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

PLASTICITY CHART AND DATA

Project: CLASSICS AT EVANDALE AVENUE

Location: MOUNTAIN VIEW, CA

Project No.: 899-60

FIGURE B-1

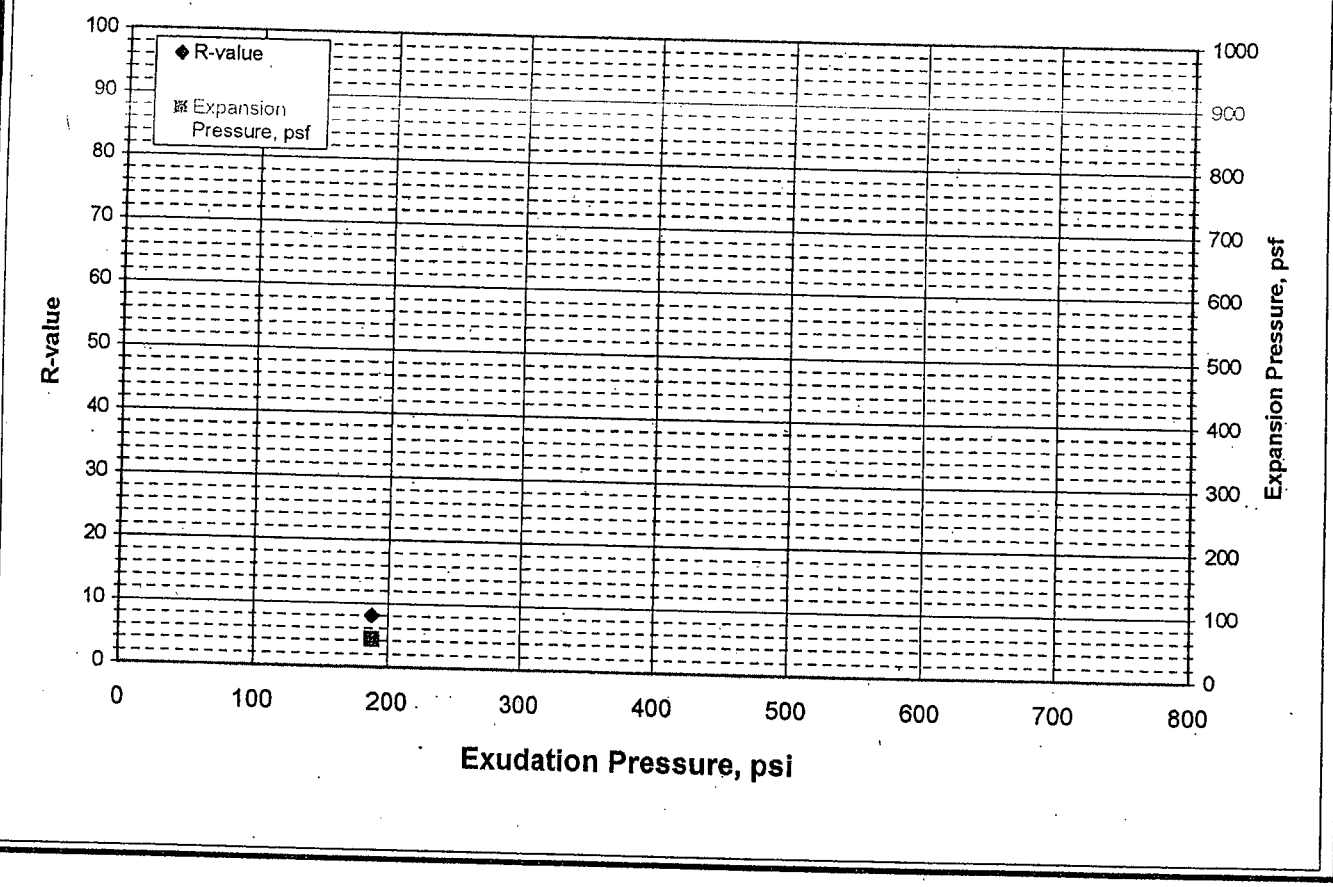
LA CORP.GDT 1/21/05 MV* FLL

Job No.:	899-60	Date:	01/13/05	Initial Moisture,	19.1%
Client:		Tested	MD	R-value by Stabilometer	<5
Project:	Classics at Evandale Avenue	Reduced	MJ		
Sample	EB-1, Bulk	Checked	DC	Expansion Pressure	psf
Soil Type:	Dark brown silty clay				

Specimen Number	A	B	C	D
Exudation Pressure, psi	188			
Prepared Weight, grams	1200			
Final Water Added, grams/cc	75			
Weight of Soil & Mold, grams	3082			
Weight of Mold, grams	2089			
Height After Compaction, in.	2.58			
Moisture Content, %	26.5			
Dry Density, pcf	92.1			
Expansion Pressure, psf	43.0			
Stabilometer @ 1000				
Stabilometer @ 2000	140			
Turns Displacement	3.89			
R-value	8			

Remarks:

Soil extruded from the mold giving a false exudation pressure. Per Caltrans, the R-Value test was terminated and an R-Value of less than 5 was reported.



R-VALUE TEST

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE B-2
899-60

APPENDIX C
CORROSION EVALUATION REPORT
BY JDH CORROSION CONSULTANTS, INC.

JDH Corrosion Consultants
Incorporated

January 18, 2005

Lowney Associates
405 Clyde Ave
Mountain View, CA 94043

Attention: **Mr. Minh Le**

Subject: **Site Corrosivity Evaluation**
Classics at Evandale Drive

Dear Mr. Le,

In accordance with your request, we have reviewed the laboratory soils data for the above referenced project site. Our evaluation of these results and our corresponding recommendations for corrosion control for the above referenced project foundations and buried site utilities are presented herein for your consideration.

SOIL TESTING & ANALYSIS

Soil Chemical Analysis

Three (3) soil samples from the project site were chemically analyzed for corrosivity by ***Cooper Testing Laboratories***. Each sample was analyzed for chloride and sulfate concentration, pH, resistivity at 100% saturation and moisture percentage. The test results are presented in Cooper Testing Laboratories *Test Summary* dated 1/14/05. The results of the chemical analysis were as follows:

Soil Laboratory Analysis

Chemical Analysis	Range of Results	Corrosion Classification*
Chlorides	13 - 60 mg/kg	Non-corrosive
Sulfates	92 - 169 mg/kg	Non-corrosive **
pH	7.6 – 8.0	Non- corrosive**
Moisture (%)	23.3 - 27	Not-applicable
Resistivity at 100% Saturation	679 - 918 ohm-cm	Corrosive

* With respect to bare steel or ductile iron.
** With respect to mortar coated steel

DISCUSSION

Reinforced Concrete Foundations

Due to the relative absence of water-soluble sulfates in these soils, there is no special requirement for sulfate resistant concrete to be used at this site. The type of cement used should be in accordance with UBC for soils which have less than 0.10 percentage by weight of water soluble sulfate (SO_4) in soil and the minimum depth of cover for the reinforcing steel should be as specified in UBC as well.

Underground Metallic Pipelines

The soils at the project site are considered to be "corrosive" to ductile/cast iron, steel and dielectric coated steel. Therefore, special requirements for corrosion control are required for buried metallic utilities at this site depending upon the critical nature of the piping. Pressure piping systems such as domestic and fire water should be provided with appropriate coating systems and cathodic protection, where warranted. In addition, all underground pipelines should be electrically isolated from above grade structures, reinforced concrete structures and copper lines in order to avoid potential galvanic corrosion problems.

LIMITATIONS

The conclusions and recommendations contained in this report are based on the information and assumptions referenced herein. All services provided herein were performed by persons who are experienced and skilled in providing these types of services and in accordance with the standards of workmanship in this profession. No other warrantees or guarantees, expressed or implied, are provided.

We thank you form the opportunity to be of service to **Lowney Associates** on this project and trust that you find the enclosed information satisfactory. If you have any questions or if we can be of any additional assistance, please feel free to contact us at (925) 927-6630.

Respectfully submitted,

J. Darby Howard, Jr., P. E.
JDH CORROSION CONSULTANTS, INC.
Principal

cc: File 25011

APPENDIX C

Phase I and Screening Level Phase II Environmental Site Assessment, 2.26-Acre Lucky U Motel Property 185 Fairchild Drive Mountain View, CA, Geotrans Project #: 4960.019.01, Geotrans, Inc., April 13, 2004.

GeoTrans, Inc.
A TETRA TECH COMPANY

3035 Prospect Park Drive
Suite 40
Rancho Cordova, CA 95670-6070

www.geotransinc.com

916-853-1800 FAX 916-853-1860

PHASE I AND SCREENING LEVEL PHASE II ENVIRONMENTAL ASSESSMENT
2.26-ACRE LUCKY U MOTEL PROPERTY
185 FAIRCHILD DRIVE
MOUNTAIN VIEW, CALIFORNIA

April 13, 2004

Prepared for:

Classic Communities
1068 East Meadow Circle
Palo Alto, California 94303

Prepared by:

GeoTrans, Inc.
3035 Prospect Park Drive, Suite 40
Rancho Cordova, California 95670

Tim Costello
Senior Scientist

Keith Hoofard
Senior Geologist

GeoTrans Project 4960.019.01

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(continued)

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1.0 INTRODUCTION AND SCOPE OF WORK

GeoTrans, Inc. was retained by Classic Communities to perform a Phase I and screening level Phase II Environmental Assessment (Phase I/II EA) of the 2.26-acre Lucky U Motel property located at 185 Fairchild Drive in Mountain View, California (the Property). The motel was constructed in the mid- to late-1940's and is located on a 2.26-acre site. The Phase I/II EA work presented in this report was conducted in accordance with the GeoTrans proposal titled *Proposal for Phase I and Screening Level Phase II Environmental Assessment, 2.26-Acre Motel Property, 180 Evandale Avenue, Mountain View, California* dated January 30, 2004. The 180 Evandale Avenue address corresponds to the back (southern) portion of the property that fronts Evandale Avenue; the current business address is 185 Fairchild Drive. Work was also performed in accordance with the scope of work and limitations of ASTM Standard E1527-00.

The objective of the Phase I/II EA activities was to provide an evaluation of current and historical use of the Property to assess whether such use has, or is expected to, result in environmental degradation of the Property, or *Recognized Environmental Conditions* as defined by the ASTM Standard. The ASTM Standard E1527-00 defines *Recognized Environmental Conditions* as the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term is not intended to include *de minimis* conditions that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The scope of work conducted during the Phase I/II EA consisted of the following:

- Acquisition and review of a federal, state and local regulatory agency database search encompassing a one mile radius from the Property;
- A review of historical aerial photographs of the Property and vicinity taken over the last 53 years;
- A review of Santa Clara Valley Water District files for nearby release sites;
- Review of City of Mountain View Building Department files for the Property;
- Review of City of Mountain View Fire Department files for the Property;

- Review of historical street directory information for the Property;
- A site reconnaissance of the Property and observations of adjacent properties;
- Interviews with individuals knowledgeable of current and historic site use and ownership;
- Review of several groundwater monitoring reports for the nearby MEW Study Area;
- Interviews with the U.S. EPA Project Manager for the nearby MEW Study Area;
- Screening Level Phase II soil and groundwater sampling and analysis; and
- Preparation of this report.

2.0 PROPERTY DESCRIPTION, SITE RECONNAISSANCE, AND SURROUNDING LAND USE

The Property consists of a 2.26-acre site supporting a single-story older style motel (motor court) in operation, and a vacant field behind the motel, at 185 Fairchild Drive in Mountain View, California (Figures 1 and 2). The assessor's parcel number (APN) for the Property is 160-07-007. In the center of the motel is the owner's residence, which is a two-story structure. The motel is horseshoe shaped with a lawn area and filled in pool in the center area. The motel contains 21 rooms and 10 garages; the garages are currently used for storage. Vibha Panchal is the owner the Property.

The Property is located within the northern portion of a residential area in Mountain View. Commercial and industrial land uses occur north of the Property (Highway 101 and Moffett Field, a Naval Air Station), and southeast of the Property (commercial buildings located east of Whisman Road, within the "MEW" Superfund site). To a lesser extent smaller commercial businesses such as auto repair facilities are located west of the Property along Tyrella Avenue near Fairchild Drive.

Two well studied hazardous materials release sites are located near the Property (Figure 2). The "MEW" Superfund site, with releases from several sources (Fairchild, Raytheon, Intel) of chlorinated solvents including TCE to groundwater, is located east and southeast of the Property within an area bounded by Middlefield Road, Ellis Street, and Whisman Boulevard (hence the "MEW" reference). Also, the Moffett Field Superfund site is located north of the Property, across Highway 101.

The Property appears to have supported open fields or agricultural fields (perhaps dry-farmed grain) from at least the 1930s and 1940s, until the motel was constructed in the mid- to late-1940's. No information was uncovered to suggest that the Property supported an orchard, or other structures.

Figure 3 is a plot plan of the Property, showing site features and the Phase II sample locations. An open field is located behind the motel, along Evandale Avenue. The entrance to the motel is from Fairchild Drive.

2.1 Site Reconnaissance

Mr. Tim Costello of GeoTrans visually assessed the Property on February 6, 2004. The Property owner (and on-site resident), Ms. Vibha Panchal, provided access to the building and accompanied Mr. Costello during most of the site reconnaissance. Ms.

Panchal was familiar with uses of the Property since the time her family purchased the Property in 1972 or 1973. The motel was in use at the time of the site reconnaissance. During the site reconnaissance the private residence, an empty motel room, a garage, and an out-building were entered, and exterior areas were assessed.

Information obtained and observations made during GeoTrans' site reconnaissance are presented below. Photographs of the Property and vicinity are presented in Appendix A.

At the time of the site reconnaissance, the Property was developed with the single-story motel, with a lawn area and filled-in pool in the front of the motel, and a vacant field behind the motel in the southern portion of the Property. The motel contained 21 rooms, 10 garages (used for storage), and a 2-story residence in the center of the motel that also served as the office on the ground floor.

The Property owners operate the motel and live in the 2-story central portion of the structure. The motel office was located on the ground floor within the private residence area. The motel rooms, numbered 101 – 121, contained a typical sleeping area and bathroom. The motel also contained 10 small garages. The presence of automobile garages were characteristic of these types of motor court motels constructed in the 1940's. Most of the garages could not be entered because the wooden garage doors had been nailed shut. One garage was entered and was being used for storage of misc. materials (see photo). The garages were formerly entered via an asphalt drive located along the rear of the motel building. The garage doors are located along the outside (rear portion) of the building, and some garages had walk-through doors located in the interior portion of the building. The asphalt drive along the rear side of the building is still in place, but access to the drive is prevented by wooden fencing and gates installed along the front of the Property. According to Ms. Panchal, no storage, use, or release of hazardous materials occurred in the garages or elsewhere on the Property.

Two metal plates were located within the asphalt driveway in front of the motel (see figures). According to Ms. Panchal, each metal plate marks the location of a septic tank.

A lawn is located within the courtyard area in front of the motel. An in-ground pool is located in the north end of the lawn area, and was filled in with soil. Ms. Panchal stated that the pool was filled in about 15 years ago. Just west of the pool was a small shed that appeared to represent a pool maintenance structure that contained the pump and

other pool equipment. The shed was being used to store various misc. materials and garbage.

The asphalt in front of the motel was in generally poor condition, with moderate cracking and asphalt patches. Minor oil stains, typical of vehicle parking areas, were present in many of the vehicle parking areas. An abandoned vehicle was located on the asphalt drive, near the center of the motel drive.

A wooden fence was in place across the northwest and northeast portions of the Property to prevent access behind the motel (see Figure 3). Behind the motel the old asphalt drive accessing the garages was still in place. The balance of the Property consisted of an open field covered with annual grasses and weeds (see photos). A few fruit trees, planted by the Panchal family, were located in the north central portion of the field. According to Ms. Panchal, an old water well was also located in this portion of the Property. No field indication of the former well was noted during the site walk, but the tall grasses may have obstructed evidence of the former location of the well. Ms. Panchal stated that the City of Mountain View arranged to have the well abandoned about 15 – 20 years ago. Ms. Panchal also said that to her knowledge, the former well was never used by her family.

An automotive battery was present on the ground surface just behind the fence in the northwest portion of the Property (see Figure 3 and photo). No indication of leakage from the battery was noted. A few piles of landscape cuttings were present in the open field along Evandale Avenue. Aside from the one battery, and minor amounts of inert trash (paper, wood and metal) and landscape cuttings behind the motel, no other hazardous materials or debris were noted on the Property.

No obvious signs of the presence of underground storage tanks, or storage or releases of hazardous materials, were noted on the Property.

2.2 Adjacent Site and Vicinity Observations

Adjacent land use is as follows:

North: Fairchild Drive, Highway 101, and Moffett Field.

East: Apartments and houses, another older style motel, and an office building at the corner of Fairchild Drive and N. Whisman Road.

South: Apartments and houses.

West: Apartments and houses, a mobile home park, and farther west along Tyrella Avenue an automotive repair business and a former gasoline station building.

No groundwater monitoring wells were observed on or near the Property during the site reconnaissance. Review of groundwater monitoring reports for the MEW Superfund site, discussed in Section 5.2, depict regional groundwater monitoring wells in the overall vicinity of the Property, but no wells are shown to be located on the Property. According to the EPA project manager for the MEW site, Ms. Alana Lee, the closest groundwater monitoring wells to the Property are located on the motel site east of the Property on Fairchild Drive (at or near 277 Fairchild Drive).

3.0 HISTORICAL REVIEW

GeoTrans reviewed historical aerial photographs, City of Mountain View Building Department files, City of Mountain View Fire Department files, obtained a City Directory review from EDR, interviewed staff from the Mountain View Library Historical Room, and interviewed the Property owner representative to assess historical features on and near the Property. Sanborn Insurance maps of the Property were sought, but were not prepared for the area of the Property.

Copies of the aerial photographs are provided in Appendix B. A copy of a December 1963 parcel map copied from the City of Mountain View Building Department files, and a current parcel map, are provided in Appendix C. A copy of the City Directory report from EDR is provided in Appendix D.

3.1 Aerial Photograph Review

Aerial photographs of the Property and vicinity from the years 1951, 1958, 1960, 1968, 1974, 1980, 1988, 1996, and 2000 were reviewed. Aerial photographs were obtained from Pacific Aerial Surveys in Oakland, California, with exception of the 2000 aerial photograph that was obtained from the GlobeXplorer web site. Aerial photographs generally provide a surface view of land uses and changes in development over time. A brief description of each aerial photograph reviewed, with emphasis on changes to the land uses of the Property and surrounding area is presented below.

6/24/51

The Property supports a building that appears to be the Lucky U Motel. What appear to be asphalt drives are located in front and in back of the building. The southern portion of the Property is undeveloped, and two paths or dirt roads are visible leading from Evandale Avenue across the undeveloped field to the central portion of the motel building. Structures are located on adjacent properties; the structures to the south and east appear to be residential. A frontage road is located in front of the Property (in the present-day location of Fairchild Drive), and the Bayshore Highway (Highway 101) is also present. The land north of the highway appears to be an undeveloped agricultural field.

3/2/58

Features visible on the Property appear similar to those observed in the 1951 photograph. The motel building, undeveloped field, and two paths or dirt roads across the field look unchanged since 1951. Surrounding properties appear to have undergone

additional development. The land north of Highway 101 has been developed with buildings and a baseball field.

8/23/60

No significant changes to the Property are evident as compared to the previous photographs. The paths or dirt roads across the field are no longer visible. The baseball field north of Highway 101 is no longer present. Surrounding land uses otherwise appear similar to those on the previous photograph.

7/15/68

A feature that corresponds to the in-ground pool is visible in the northern portion of the Property. A feature that could be a fence is located in the present-day location of the fence that prevents access from the north to the rear asphalt drive area. Otherwise, the Property appears similar to the previous photograph. Additional residential and commercial development has occurred in the vicinity of the Property since 1960, and Highway 101 appears to have been widened to 3 lanes in each direction since 1960.

4/28/74

The Property remains unchanged as compared to the 1968 photograph. The in-ground pool is clearly visible. The field in the southern portion of the Property remains undeveloped. Additional residential development has occurred to the west and southwest of the Property since 1968.

7/22/80

The scale of this photograph allows much more detail to be visible on and near the Property. The Property appears similar to present-day conditions, except that the in-ground pool does not appear to be filled in. The field in the southern portion of the Property remains undeveloped. Surrounding land use appears unchanged since 1974.

6/28/88

The Property and surrounding land use appear similar to that observed in the 1980 photograph. The trees in the field behind the motel are clearly visible, and small square features are visible in this area as well; the use of the features is not evident but they may represent small garden plots. Surrounding land use remains largely unchanged.

10/8/96

The Property and surrounding land use appear similar to conditions observed during the February 2004 site reconnaissance.

2000
The Property and surrounding features appear similar to those observed during the February 2004 site visit.

3.2 City Directory Review

The History Room inside the Mountain View Library was visited to review historical information pertaining to the Property and vicinity. Historical Polk and Haines City Directories were reviewed to assess listings associated with the Property. In addition, a City Directory Report was ordered from EDR (Appendix D).

The specific years searched for the City Directory Review are listed in the report in Appendix D. In summary, the City Directory Report, along with review of City Directories in the History Room and an interview with library staff in the History Room revealed the following:

- The Property likely had an address corresponding to Bayshore Highway prior to the early 1960's. Fairchild Drive first appears in 1964. A listing for Lucky U Motel appears in 1962 on Bayshore Highway (Note: according to the 1963 parcel map, the road in front of the motel was called "Frontage Road").
- No listings for the Motel were found in street directories prior to 1962.
- Listings for the Lucky U Motel are present from the 1960's through the 1990's; beginning in the late 1960's the listings are under Fairchild Drive.
- Other addresses listed in the 1968, 1975, 1986 and 1991 directories along Evandale Avenue and Fairchild Drive near the Property supported mostly residential land uses. A business called "Dan's Automotive" is listed at 111 Fairchild (corner of Fairchild and Tyrella, west of the Property) in the 1986 and 1991 directories, and this address is listed as "Fairchild Service Center Gas Sta" in the 1968 directory. This site appeared to be a former gas station during the site visit performed in February 2004. A business called "Mas Auto Service" is listed at 123 Fairchild Drive, next door to 111 Fairchild, in the 1968 and 1986 directories. Figure 2 identifies the location of these addresses along Fairchild Drive.

3.3 Mountain View Fire Department

The Mountain View Fire Department did not have any hazardous materials files for the Property, only routine fire safety inspection reports. No violations were noted in the two most recent inspection reports, dated 10/22/03 and 4/5/02. No indication of hazardous materials use or storage at the Property, including within the garages, was in the file.

3.4 Mountain View Building Department

Mountain View Building Department microfiche files were reviewed for the Property on February 6, 2004. Files for 185 Fairchild Drive and 180 Evandale Avenue were searched. A total of eight sheets of microfiche files were on file and were reviewed.

The earliest file information was dated October 1968, and was a permit application for a 2-story 15-unit apartment building at 180 Evandale, the present-day location of the vacant field. No file information was present suggesting that it was ever built. A parcel map was present in the file that has a prepared date of 1963; a copy of the map is included in Appendix C.

City inspection reports were on file under the 185 Fairchild Drive address dating back to 1968. The 1968 inspections appeared to focus on the overall condition of the motel, and included inspections for fire extinguishers, combustible waste (garbage), and a laundry room. The owner was listed as C. Ariani in April 1968, and as Fred and Virginia Robertson in March 1968. Various permits were on file for misc. repairs or improvements at the Property, including one for solar panels in 1985, a sign in 1975, and an electrical permit in 1995. The Property owner in 1975 was listed as M. P. Panchal, the current owner.

No issues of environmental concern were noted in the building department records. No reference to the two septic tanks was present in the file, and no building design drawings were in the file.

3.5 Interviews

GeoTrans interviewed Ms. Panchal, the Property owner, during the site visit on February 6, 2004. Information provided by Ms. Panchal was included in the Site Reconnaissance section of this report. In summary, Ms. Panchal was not aware of any current or former use, storage or release of hazardous materials on the Property. She stated that there are two septic tanks in front of the motel, beneath the asphalt, beneath

the two metal plates. Also, a water well was formerly located in the field behind the motel; the well was abandoned approximately 15 – 20 years ago. Ms. Panchal stated that her family has owned the Property since 1972 or 1973, and that it has always supported the motel during that time. Ms. Panchal did not have knowledge about uses of the Property prior to the early 1970's, but stated that she thought the motel was constructed in the 1940's.

GeoTrans also interviewed an elderly staff member (volunteer) of the History Room in the Mountain View City Library. The elderly staff member grew up in Mountain View and had knowledge of general historical land uses in the vicinity of the Property. According to the staff member, the area in the vicinity of the Property used to be referred to as the "Hamwood Area". The area was not used for orchards, but likely supported agricultural fields where hay or wheat, tomatoes or berries may have been grown.

4.0 SITE PHYSICAL CONDITIONS

4.1 Site Geology

Mountain View is located within the southwest portion of the Santa Clara Valley, a northwest trending structural basin. The valley is bounded on the west by the San Andreas Fault and the Santa Cruz Mountains, to the east by the Hayward and Calaveras Faults and mountains of the Diablo Range, and to the north by the San Francisco Bay. The Santa Clara Valley is composed of water-bearing Plio-Pleistocene and Upper Quaternary sediments, which are underlain by older non-water bearing rocks. The Upper Quaternary sediments consist of up to 1,000 feet of poorly sorted gravel, sand and clay, which were deposited in alluvial fan and deltaic depositional environments.

The hydrogeologic conditions in the vicinity of the Property are well understood as a result of numerous site investigations and soil and groundwater cleanups in the MEW Superfund study area east and southeast of the Property, and as a result of assessing the upper 15 feet of soil during the screening level Phase II assessment GeoTrans performed at the Property on March 2, 2004. Soils were found to be composed primarily of silty clay and silty sand from the ground surface to 15 feet in depth.

4.2 Site Hydrogeology

General hydrogeologic conditions in the greater Mountain View area, and specific conditions within the MEW study area east and southeast of the Property, are well understood as a result of soil borings and groundwater monitor wells installed during groundwater investigations at various semi-conductor facilities and leaking UST sites. Also, depth to first encountered groundwater beneath the Property is known as a result of the MEW investigations and the on-site Phase II EA performed as part of this study.

Based on findings of the Phase II assessment performed on March 2, 2004, first-encountered groundwater beneath the Property occurs at between 10 and 15 feet in depth, rising to between 2.5 and 10 feet in depth in the boreholes.

Based on GeoTrans' knowledge of hydrologic conditions in the Mountain View and MEW study areas, groundwater beneath the Property is expected to flow to the north-northeast in the absence of pumping wells. A consistent north and north-northeast groundwater flow direction has been reported within the MEW site.

Several groundwater flow zones occur in the area encompassing the Property. The most shallow flow zone is referred to as the A zone, and is typically found at depths between 15 and 20 feet below ground surface (bgs) in the vicinity of the Property. The underlying B1 and B2 flow zones occur deeper; the B1 typically occurs at approximately 35 – 40 feet bgs near Highway 101 (near the Property), and the B2 zone occurs at deeper depths.

4.3 Site Topography

The U.S. Geological Survey 7.5-minute topographic map of Mountain View, California Quadrangle was used to identify geographic features in the vicinity of the Property. The Mountain View, California Quadrangle reviewed for this assessment was published in 1991. According to the topographic map, the elevation of the Property is approximately 40 feet above mean sea level and the ground surface in the vicinity of the Property slopes gently to the north-northeast. The nearest surface water body in the vicinity of the Property is Stevens Creek, located ½ mile west of the Property. San Francisco Bay is located approximately 3 miles northwest of the Property.

5.0 REGULATORY AGENCY DATABASE SEARCH

To help assess potential on- or off-site environmental concerns relevant to the Property, GeoTrans retained Environmental Data Resources (EDR) to perform a search of federal, state, and local regulatory agency databases. These environmental databases contain listings of facilities that use or store hazardous substances, as well sites that are known or suspected to have contaminated soil or groundwater due to releases of a hazardous materials. The database search also lists landfills, other disposal sites, and properties with registered underground storage tanks. Regulatory agency databases, which report hazardous substance use or storage, were searched for sites within a half-mile radius of the Property. Databases that report hazardous substance release sites were searched out to a one-mile radius. The database search report is included in Appendix E.

In follow-up to the database report, GeoTrans contacted the EPA project manager for the nearby MEW superfund site to discuss current site conditions and obtain the most recent MEW regional groundwater monitoring results. Site investigation reports and closure letters were also obtained from the SCVWD website. Copies of closure letters and groundwater monitoring reports are provided in Appendix F.

5.1 Agency Database Results

The Property was not listed in any of the databases, and no sites located adjacent to the Property were listed in any of the databases.

GeoTrans screened the database listing for off-site facilities that have the most potential to impact the Property. The screening criteria used were the nature and extent of the listed hazardous substance release, regulatory status of the site, distance from the Property, and reported local groundwater flow direction (north-northeast). Based on the results of the database search, review of available SCVWD agency files was performed by down loading the files from the SCVWD web site. Also, the most recent available regional groundwater monitoring reports from the MEW superfund site were obtained in electronic format from the EPA MEW project manager, Ms. Elana Lee. Copies of select release site documents obtained from the SCVWD web site, and groundwater monitoring reports from the EPA, are provided in Appendix F. Two figures displaying groundwater sample data from November 2002 – August 2003, showing the estimated lateral extent of TCE in groundwater in both the A zone and B1 zone in the MEW area, are provided in Appendix G. These two figures include the area surrounding the

Property, identify nearby groundwater monitoring well locations, and encompass the entire MEW study area.

A total of five "NPL" (U.S. EPA Superfund) sites are listed within one mile of the Property; in addition, three CERCLIS sites are listed with ½ mile of the Property; 5 "LUST" (Leaking UST) sites are listed within ½ mile of the Property, and 5 Cortese sites are listed within one mile of the Property. The Cortese list identifies public drinking water wells with contamination, hazardous substance sites, LUST sites, and disposal facilities with known impacts. One hazardous waste generator (small quantity) is located within ¼ mile of the Property; the site has generated hazardous waste but is not an active release site.

The five NPL (Superfund) sites are the Moffett Field Naval Air Station site (north and down-gradient of the Property across highway 101); three sites within the "MEW" Superfund site – National Semiconductor (313 Fairchild); Raytheon (350 Ellis); and Intel (365 Middlefield); and the Telcom Semiconductors site (former Teledyne site at 1300 Terra Bella Avenue). The three MEW sites are located east and southeast of the Property, and the Telcom site is located >1/2 mile west of the Property.

The Moffett Field site is highlighted on Figure 1 north of the Property, and various release sites southeast of the Property within the MEW study area are highlighted on Figure 1.

The three NPL sites within the MEW study area are all significant release sites with known releases of VOCs, including TCE, to groundwater. Regional groundwater monitoring and cleanup activities are on-going within and adjacent to the MEW study area. The lateral and vertical extent of groundwater impact within and near the MEW study area is well documented. Figures showing the lateral extent of groundwater impact from TCE and other VOCs are generated periodically as a result of the on-going regional groundwater monitoring activities.

The closest release sites to the Property are listed and briefly summarized in the table below. In summary, groundwater conditions in the vicinity of the Property have been impacted by TCE from the MEW site. Based on review of the most recent groundwater monitoring reports and figures, the Property is located at the western extent of the TCE plumes emanating from the MEW area. The most recent figure displaying TCE sample results from the A aquifer (Nov '02 – August '03) shows TCE detected at 38 parts per billion (ppb) at a well located at 277 Fairchild Drive, approximately 450 feet east of the Property. TCE concentrations in the B1 aquifer, located beneath the A aquifer, were

2,400 ppb at or near the 277 Fairchild Drive location, and 24 ppb farther west along Fairchild Drive, near 133 Fairchild Drive. Releases from the other listed release sites are not expected to have impacted groundwater conditions beneath the Property, based on review of groundwater monitoring reports, discussions with the EPA MEW project manager, review of release files from other release sites, and the well documented north-northeast groundwater flow direction in the vicinity of the Property.

FACILITY	ADDRESS/PROXIMITY TO PROPERTY	DATABASE	TYPE OF RELEASE/COMMENTS
Moffett Naval Air Station	Moffett Field 1/8 mile north (down-gradient)	NPL (and 4 other lists)	This is a well-studied site that has documented soil and groundwater contamination from a variety of sources. Cleanup is on going and groundwater flow is to the north. Based on groundwater flow direction, distance from the Property, discussions with the EPA project manager for the MEW site, and available regional groundwater monitoring data, this site is not expected to impact the Property.
MEW Superfund Site	Nat'l Semiconductor – 313 Fairchild (1/8 mile east – southeast) Raytheon – 350 Ellis (1/2 mile southeast) Intel – 365 Middlefield (3/4 mile south-southeast)	NPL and several others	The MEW Superfund site is an area bounded by Middlefield, Ellis and Whisman that contains several different hazardous materials release sites. Co-mingling groundwater plumes of VOCs, mainly TCE, are present in the MEW area. This is a well-studied site that continues to undergo groundwater cleanup and regional groundwater monitoring. VOC plumes containing TCE from the MEW site have been shown to impact groundwater conditions along portions of Fairchild Drive in the vicinity of the Property (see Appendix G). The MEW Superfund site has the potential to impact groundwater conditions beneath the Property.
Telcom Semiconductors, Inc. (former Teledyne site)	1300 Terra Bella Avenue ¾ mile west (cross-gradient)	NPL (and 5 other lists)	This is a well-studied site that has VOC impact to groundwater. The VOC plume primarily consists of TCE, with various breakdown products. Groundwater treatment has been on-

FACILITY	ADDRESS/PROXIMITY TO PROPERTY	DATABASE	TYPE OF RELEASE/COMMENTS
			going since the mid-1980's. Based on distance from the Property and north-northeast groundwater flow direction, this site is not expected to impact groundwater conditions beneath the Property.
Anthony Lawrence Property	111 Fairchild Drive (1/8 mile west, cross-gradient)	LUST Cortese	This site is the former gasoline station located at the corner of Fairchild Drive and Tyrella Avenue. Three USTs were removed in 1990. Soil and groundwater impact by gasoline was detected. Soil was overexcavated and disposed. One well was installed and monitored. Soil and groundwater impact was localized, and this site **received closure** in June, 1996. Based on the limited release, closed status, lack of significant groundwater impact, and distance from the Property, this site is not expected to impact the Property.
Unocal #6395	830 Leong Drive 3/8 mile west (cross-gradient)	LUST Cortese	This site experienced a petroleum hydrocarbon release from USTs. Two gasoline and one waste oil tank were removed in 1990. Five groundwater monitoring wells were installed. Impacted soil was excavated and disposed, and groundwater monitoring was performed. The extent of groundwater impact was localized. This site **received closure** in August 1991.
Chevron #9-3960	645 Ellis ½ mile east (cross-gradient)	LUST Cortese	Three gasoline USTs and one waste oil UST were removed in 1988. A gasoline release to soil and groundwater was documented. Eight groundwater monitoring wells were installed. 700 cubic yards of soil were excavated. Low concentrations of VOCs were detected in groundwater; attributed to the MEW plume. Following soil remediation and groundwater monitoring, the residual petroleum hydrocarbon

FACILITY	ADDRESS/PROXIMITY TO PROPERTY	DATABASE	TYPE OF RELEASE/COMMENTS
			concentrations were low, and the site **received closure** in December 1998.
Yee Property	636 Ellis ½ mile east (cross-gradient)	LUST Cortese	Three USTs were removed from the Property in 1987. Diesel-range petroleum hydrocarbons were present in soil and shallow groundwater. 250 yards of impacted soil was excavated and disposed. Groundwater was pumped from the open excavation. Three wells were installed and monitored. Low concentrations of VOCs were detected in groundwater; attributed to the MEW plume. **This site received closure** in October 1998.

Based on the available information obtained, TCE and other VOCs from the MEW Superfund site have the potential to impact groundwater conditions beneath the Property. None of the other sites discussed above appear to have a significant potential to impact soil or groundwater conditions beneath the Property.

5.2 MEW Groundwater Monitoring Reports

GeoTrans contacted Ms. Alana Lee, the EPA project manager for the MEW site, to discuss the status of the VOC plumes near Fairchild Drive, and to obtain the latest sample results. Ms. Lee provided GeoTrans with several groundwater monitoring reports, including the following:

- *Annual Progress Report for Middlefield-Ellis-Whisman Study Area, Regional Groundwater Remediation Program* dated February 13, 2004 prepared by Weiss Associates.
- *Annual Progress Report for Former Fairchild Buildings 1-4, 515/545 Whisman Road and 313 Fairchild Drive, Middlefield-Ellis-Whisman Regional Study Area* dated February 13, 2004 prepared by Weiss Associates.
- *Technical Evaluation, August 2003 Groundwater Sampling Event, MEW RGRP, Mountain View, California* dated December 5, 2003 prepared by Weiss Associates.

- *MEW Treatment System Start-Up* (letter) dated July 25, 2003 prepared by Schlumberger.
- *2003 Semiannual Report, Raytheon Former Facilities, 350 Ellis Street, Mountain View, CA* dated August 14, 2003 prepared by Locus Technologies.
- *2002 Annual Technical Report, Former Intel Mountain View Facility, 365 East Middlefield Road* dated February 14, 2003 prepared by Weiss Associates.
- *Semi-Annual Progress Report – 1 January through 30 June 2003, NEC Electronics America, Inc., 501 Ellis Street, Mountain View, California* dated August 13, 2003 prepared by Geosyntec Consultants.

Copies of portions of these reports are provided in Appendix F. The most recent groundwater plume maps for TCE in the A and B1 aquifer are presented in Appendix G.

In summary, the following relevant information was obtained from discussions with Ms. Lee and review of the reports:

- Regional groundwater monitoring and treatment is on-going. Groundwater monitoring wells for the A and B1 zones are present along Fairchild Drive, in the vicinity of the Property.
- Groundwater sample results from directly south of the Property, within the residential neighborhood, are non-detect for TCE in the A zone.
- The western edge of the MEW TCE plume for the shallow A zone aquifer is shown to be located just east of the Property along Fairchild Drive in the figure presented in Appendix G. Well 79A is located on Fairchild Drive east of the Property, and most recently contained 35 ug/L TCE in November 2003 (this well contained 38 ug/L TCE in December 2002; the figure in Appendix G uses the December 2002 data). However, there is no well located farther west along Fairchild Drive to accurately define the western extent of the plume in this area.
- TCE concentrations in the B1 aquifer in the vicinity of the Property are much higher than the A zone concentrations. A monitoring well located along Fairchild Drive east of the Property (well 12B1) contained 2,400 ug/L TCE in the Nov '02 – August '03 sample episode, and 2,600 ug/L in November 2003. The TCE contour map presented in Appendix G shows that the western extent of the TCE plume in the B1 aquifer extends to the west past Tyrella Avenue. An extraction well removing water from the B1 zone (well Reg-3B1) is located adjacent to well 12B1, and likely is acting to prevent continued western migration of impacted groundwater in the B1 zone in this area.

- According to Ms. Lee, the presence of elevated concentrations of TCE in the B1 aquifer is not an exposure concern for residents of properties overlying the B1 plume because there is no complete exposure pathway. TCE concentrations in the shallow A zone and soil are used for assessing potential health impact to residents; for example the potential for TCE volatilization into indoor air.

6.0 SCREENING LEVEL PHASE II ASSESSMENT

GeoTrans conducted screening level Phase II assessment activities at the Property on March 2, 2004 to assess baseline soil and groundwater conditions. Grab-groundwater samples were also collected to assess whether the up-gradient VOC plume associated with the large MEW study area has impacted groundwater conditions beneath the Property. Soil boring locations are shown on Figure 3.

Four soil borings (SB-1 through SB-4) and one four-point-composite surface soil sample (GS-1) were completed on the Property. Borings SB-1 through SB-4 were advanced to between 10 and 15 feet in depth using a direct push Geoprobe rig. The boring locations were selected to assess soil conditions and up-gradient and down-gradient groundwater conditions. The rationale for boring placements was as follows:

- **SB-1:** Northwest portion of the Property, to assess soil and groundwater conditions in the down-gradient portion of the Property, down-gradient of one of the reported septic tank locations and several of the garages.
- **SB-2:** Northeast portion of the Property, to assess soil and groundwater conditions in the down-gradient portion of the Property, down-gradient of the second reported septic tank location and several of the garages.
- **SB-3:** Southwest corner of the Property, to assess soil and groundwater conditions in the up-gradient portion of the Property.
- **SB-4:** Southeast corner of the Property, to assess soil and groundwater conditions in the up-gradient portion of the Property, closest to the MEW study area.
- **GS-1:** Four-point composite surface soil sample collected from the open field in the southern portion of the Property to asses for the potential presence of pesticide residues.

Date of Work: March 2, 2004.

Drilling Method: The soil borings (SB-1 through SB-4) were completed using a Geoprobe (direct push) rig. The four-point composite sample was completed to a depth of 0.5 feet below ground-surface with a hand trowel. The GeoProbe borings were sealed with neat cement to grade, and borings SB-1 and SB-2 were topped with cold-patch asphalt. The hand-dug borings were backfilled with native soil.

Soil Sampling Method: GeoProbe soil samples were collected using a 24-inch piston core sampler fitted with new acetate sample sleeves. Soil samples were collected at 5 and 10 feet in depth from each boring. The four-point composite samples were collected by digging to 0.5 feet with a hand trowel, and collecting the sample with the trowel. The soil samples were screened for volatile organic compounds in the field using a portable organic vapor monitor (OVM) instrument. No elevated readings were detected.

Lithology: The lithology across the Property (SB-1 through SB-4) generally consists of low to moderate plasticity, fine-grained materials (silty clays and sands) from ground surface to approximately 10 feet in depth. Soil conditions were slightly moist to moist. Lenses of loose gravelly sand were present in several borings from approximately 5 feet to 10 feet below ground surface (maximum depth explored).

Depth to Groundwater: First groundwater was encountered between 10 and 15 feet bgs, stabilizing between 2.5 and 10 feet below grade.

Groundwater Sampling Method: Groundwater samples were collected using polyethylene tubing with a check valve (positive displacement method) placed through new temporary PVC well screen and casing placed in each bore hole.

Groundwater Flow Direction: Expected to be north-northeast.

Soil Cuttings/Decon Water: No significant soil cuttings were produced. Decon water was used to prepare the neat cement grout used to abandon the soil borings. No obvious signs of chemical impact were noted in the soil samples or decon water.

Laboratory Analyses:

- The 5-foot soil samples from borings SB-1 through SB-4 were analyzed for: VOCs including benzene, toluene, ethyl benzene and xylenes (BTEX) compounds and MTBE using EPA Method 8260; TPH-g using GC/FID; and TPH-d/o using EPA Method 8015M, as shown in Table 1. The four-point composite soil sample was analyzed for organochlorine pesticides using EPA method 8081A. The remaining soil samples were archived.
- The groundwater samples from SB-1 through SB-4 were analyzed for VOCs, including BTEX and MTBE using EPA Method 8260 low level, and for TPH using EPA Method 8015M, as shown in Table 2.

Laboratory analytical results are presented in Tables 1 and 2. Copies of laboratory analytical data sheets and chain-of-custody forms are presented in Appendix H.

Field Investigation Summary Table

Boring ID	Total Depth (feet)	Soil Sample Depth (feet, bgs)	OVM Screening (ppm)	Soil Sample Analyzed	Static Depth to Groundwater (feet, bgs)	Groundwater Sample Analyzed
SB-1	11	5 10	0.0 0.0	YES Archived	6.9	YES
SB-2	11	5 10	0.0 0.0	YES Archived	2.5	YES
SB-3	11	5 10	0.0 0.0	YES Archived	9.2	YES
SB-4	15	5 10	0.0 0.0	YES Archived	10	YES
GS-1	0.5	0.5		YES	---	-----

Findings:

As shown in Table 1, no soil impact was found at the Property based on the samples analyzed. No compounds were detected in any of the sample analyzed, and no field indication of soil impact was noted.

As shown in Table 2, trichloroethene (TCE) was detected in two of the four grab-groundwater samples. No other compounds were detected in any of the groundwater samples. TCE was detected at SB-3 (7.8 ug/L) and at SB-4 (13 ug/L). Each of these borings were completed in up-gradient locations on the Property, closest to the MEW VOC plume. The detected concentrations of TCE slightly exceed the 5 ug/L drinking water standard (California Maximum Contaminant Level [MCL value]).

The VOC detections appear to be related to the documented solvent releases from the up-gradient MEW Superfund site, and do not indicate a release from the Property. The VOCs detected in groundwater beneath the site are consistent with the VOCs detected in the up-gradient plume (TCE).

7.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Summary

GeoTrans found no evidence of past or present storage, use or a release of hazardous materials on-site. The battery observed on the ground in the northwest portion of the Property did not show signs of leakage.

A water well was reportedly located within the open field south of the Motel. According to the Property owner, City of Mountain View officials arranged for the well to be abandoned about 15 – 20 years ago. No indication of the well's presence could be found during the site visit, but the tall grass made observations of the ground surface difficult.

According to the Property owner, two septic tanks are located on-site, as shown on Figure 3. No evidence of a release of hazardous materials to soil or groundwater was detected near either of the tanks (borings SB-1 and SB-2). No records of the tanks were found in building department files, but the files did not date back to the construction date of the building.

The motel was constructed in the mid- to late-1940s, and appears to have been the only structure constructed on the Property. Prior to construction of the motel, the Property may have been an agricultural field, and may have been used to raise wheat, berries and/or tomatoes. Pesticide residues were not detected in the one 4-point composite soil sample collected within the open field in the southern portion of the Property.

The Property is located near the northwestern (down-gradient) edge of the MEW Superfund study area. The MEW area is underlain by VOC groundwater plumes containing TCE and other VOCs. TCE-impacted groundwater occurs in the shallow (15-20 feet bgs) A aquifer zone, and the deeper B1 aquifer zone (35 – 40 feet bgs). Review of the most recent available groundwater sample reports and figures show that the western extent of the TCE plume occurs along Fairfield Drive in the vicinity of the Property. The data also indicate that higher concentrations of TCE occur in the B1 zone beneath Fairchild Drive, including beneath the Property. Discussions were held with Elana Lee, MEW project manager for the EPA, regarding the significance of the presence of VOCs in the B1 zone. According to Ms. Lee, there is no direct exposure pathway from the B1 zone to on-site residents, and VOC concentrations in the shallow A zone are evaluated with respect to the potential for exposure to on-site residents.

VOC concentrations in the A zone, and in soil, are used to assess the potential for volatilization into indoor air.

GeoTrans performed a screening level Phase II assessment on March 2, 2004 to assess soil and groundwater conditions across the Property. The sampling was performed to document groundwater conditions in recognition of the proximity of the Property to the MEW study area, to assess soil and groundwater conditions near the two reported septic tanks on-site, and to screen for the possibility of pesticide residues in shallow soil. No VOCs or petroleum hydrocarbon compounds were detected in any of the soil samples, and no pesticide compounds were detected in the one composite soil sample collected and analyzed. TCE was detected in two of the four grab-groundwater samples collected from across the site – at 7.8 ug/L (ppb) at SB-3, and at 13 ug/L at SB-4. These two boring locations are along the up-gradient boundary of the Property, closest to the MEW area. No other VOCs and no petroleum hydrocarbon compounds were detected in the two samples. No VOCs or petroleum compounds were detected in the two down-gradient borings, SB-1 and SB-2, completed adjacent to the down-gradient side of each of the two reported septic tank locations.

The concentrations of TCE detected in the two grab-groundwater samples slightly exceed the U.S. EPA and State of California drinking water standard for TCE of 5 ug/L.

The detected concentrations of TCE in groundwater are well below the published RWQCB Interim Final Environmental Screening Level (ESL) values of 530 ppb (residential) and 1,800 ppb (commercial) for TCE in shallow groundwater (with high permeability soils) not used for drinking (*RWQCB, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final ESLs, July 2003*). This action level represents a TCE concentration that, if met or exceeded, would be considered to have some potential for vapor intrusion into buildings, and would trigger additional investigation work such as soil vapor surveys or perhaps indoor air sampling to better address site conditions.

7.2 Conclusions and Recommendations

Based on the information reviewed and generated during the course of this Phase I/II EA, GeoTrans found evidence of the presence of *Recognized Environmental Conditions* at the Property – low concentrations of TCE in shallow groundwater beneath the southern (up-gradient) portion of the Property, and the likely presence of higher concentrations of TCE in the underlying deeper B1 aquifer occurring at about 35 to 40 feet in depth. The detected TCE concentrations in the A zone (7.8 and 13 ppb) do not

approach the RWQCB's screening level value of 530 ug/L for indoor air volatilization concerns under a residential land use scenario.

GeoTrans found no evidence of an on-site release of hazardous materials at the Property, and no evidence of past or current use or storage of hazardous materials on the Property.

The VOC detections strongly appear to be the result of migration of TCE-impacted groundwater from the MEW Superfund site.

Based on the work performed, and the conclusions presented above, no further site assessment activities are recommended for the Property at this time.

It is recommended that this report be provided to a representative of the appropriate regulatory agency, the RWQCB or U. S. EPA, to solicit a "Comfort Letter" to Classic Communities. The Comfort Letter is intended to:

- Confirm the agency's stance in acknowledging that the presence of TCE in groundwater detected in the A zone in the southern portion of the Property is part of the MEW plume, and is does not represent an on-site release;
- Confirm the agency's stance that the expected higher concentrations of TCE in the underlying B1 aquifer does not represent a current or future risk to occupants of the Property; and
- Confirm the agency's stance that they will not pursue the landowner or purchaser for any investigation or cleanup actions or costs associated with the presence of TCE and/or other VOCs in groundwater beneath the Property.

8.0 LIMITATIONS

The Property investigations performed as part of this assessment should not be construed to be complete characterizations of overall environmental regulatory compliance, or of conditions above or below grade. GeoTrans has assumed that the information sources utilized for this investigation provided complete and accurate information; however, regulatory files are often difficult to access and incomplete, particularly in regard to historical data. Any reliance by Classic Communities shall be consistent and in keeping with the limitations expressed in the GeoTrans proposals, the ASTM Standard E1527-00, and subject to project work scope limitations.

The work performed is consistent with the standards of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this report.

Analytical Results Summary - Soil
Lucky U Motel
Fairchild Road
Mountain View, California

March 2, 2004

	GC FID (mg/kg)	EPA 8015M w/SGT (mg/Kg)		EPA 8260 (µg/Kg)			EPA 8021A (µg/Kg)
Sample ID	Gasoline	Diesel	Motor Oil	BTEX	MTBE	VOCs	Organochlorine Pesticides
SB-1-5'	ND	ND	ND	ND	ND	ND	na
SB-2-5'	ND	ND	ND	ND	ND	ND	na
SB-3-5'	ND	ND	ND	ND	ND	ND	na
SB-4-5'	ND	ND	ND	ND	ND	ND	na
GS-1-0.5*	na	na	na	na	na	na	ND
PRG	---	---	---	B - 600 T - 520,000 E - 8,900 X - 270,000	17,000**	Compound Specific	Compound Specific

Notes:

*	4-point composite sample from 0.5 feet in depth, for pesticide analysis.
SGT	Silica Gel Treatment (to remove naturally occuring lipids and fats that may cause false positive results).
mg/Kg	milligrams per kilograms or parts per million (ppm).
µg/Kg	micrograms per kilograms or parts per billion (ppb).
BTEX	benzene, toluene, ethyl benzene and xylenes.
MTBE	methyl tert-butyl ether.
VOCs	volatile organic compounds.
ND	Not detected at or above the laboratory reporting limit. See laboratory analytical data sheets for analyte specific reporting limits.
na	Not analyzed.
PRG	United States Environmental Protection Agency, Region IX, Preliminary Remediation Goal, residential land use scenario, 2002.
---	Not applicable.
**	Cal-modified PRG.

TABLE 2

Analytical Results - Groundwater

Lucky U Motel
Fairchild Road
Mountain View, California

March 2, 2004

	GC FID (mg/L)	EPA 8015M (mg/L)		EPA 8260 (µg/L)		
Sample ID	**Gasoline**	**Diesel**	**Motor Oil**	**BTEX**	**MTBE**	**VOCs**
SB-1-W	ND	ND	ND	ND	ND	ND
SB-2-W	ND	ND	ND	ND	ND	ND
SB-3-W	ND	ND	ND	ND	ND	TCE = 7.8
SB-4-W	ND	ND	--	ND	ND	TCE = 13
MCL	0.005 (1)	100 (2)	---	B - 1.0 T - 150 E - 700 X - 1,750	13	5 - TCE

Notes:

mg/L	milligrams per liter or parts per million (ppm).
µg/L	micrograms per liter or parts per billion (ppb).
BTEX	benzene, toluene, ethyl benze and xylenes.
MTBE	methyl tert-butyl ether
VOCs	volatile organic compounds.
ND	Not detected at or above the laboratory reporting limit. See laboratory analytical data sheets for analyte specific reporting limits.
TCE	Trichloroethene
MCL	Maximum Contaminant Level, *A.Compilation of Water Quality Goals*, Regional Water Quality Control Board, Central Valley Region, 2000.
---	Not applicable.
(1)	Taste and odor threshold.
(2)	Suggested No-Adverse-Response Level (SNARL) for toxicity, USEPA, 2000.